THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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For the Farmers' Cabinet.

The following letter was addressed by Joseph Paxton, Esq., an honorary member of the Phila. Agricultural Society, to a member of said Society, residing in this city.

Catawissa, Columbia Co. Pa., Oct'r. 11, 1838.

DEAR SIR,—Knowing the deep interest that you have taken in the promotion of agriculture, and possessing something of the same spirit, induces me to communicate to you the manner that I have pursued in farming a lot, containing three acres and three quarters, adjoining our town. I have also farmed 130 or 40 acres to very good effect, a part of which has produced quite equal to the lot above mentioned. This lot is on the second rise from the river Susquehanna, and was formerly covered with yellow pine saplings—the soil is rather light—I purchased it 14 or 15 years since. I farmed it for seven or eight years with wheat and clover alternately, mowing the first crop of clover and ploughing down the second, and sowing wheat after one ploughing, and harrowing it in. I have had 40 bushels of clean wheat to the acre in this way of farming, and found my land to improve. In the autumn of 1833, I sowed timothy seed shortly after my wheat, and in the spring following clover seed also, and had a good crop of wheat in 1834.

In July 1835 I cut 16½ tons of excellent timothy and clover hay from this piece of land, say worth $12 per ton, amt'g to	$198 00
July 1836 cut 14½ tons of hay at $12	174 00
July 1837 cut 15½ tons of hay at $12	186 00
Oct. 1838 had 636 bushels of corn in the ear from 3½ acres of it, say 318 bushels of corn at 75c. per b.	238 50
Oct. 1838 had from ¼ of an acre of headlands of lot, 30 bushels of potatoes at 75 cts. per bushel	22 50
Oct. 1838 had 200 pumpkins grown among corn at 1 ct. each	2 00
Prod. of 3¾ acres for 4 successive yrs.	$821 00

In the statement of the corn I have not included 10 or 12 bushels of ears, sold or taken from the lot for boiling. The crop is rather extraordinary for the season. Last fall I ploughed down the sod that had been mowed for the three previous years, which sod had been well manured the spring before—early this spring it was well harrowed, and at planting time it was furrowed out three feet apart each way, and four grains put in each hill, and two rows of potatoes planted around the lot. The Cultivator was principally used in dressing the corn, and at the last dressing, one half the lot was reduced to two stalks to the hill, leaving three stalks in the other half, and taking care to let the thriftiest plants remain. In furrowing out, care was taken not to turn up the sod.

On examination of the ears, it was found that where there were three plants to a hill they were more numerous, but where there were two only, the ears appeared to be larger. It was the large yellow corn that was grown, and some of the ears were eight inches in circumference, and many of them from 13 to 14½ inches in length. The seed was taken from stalks that had two or three ears on each, taking the upper and the best one. The lot has been sown with wheat since the corn was taken off; it had been topped, and as the ploughing progressed, a man and boy pulled up the stalks and placed them in the furrows, with the butt or root end towards the plough, and in this way the whole of them are completely buried, and if I mistake not, will decompose and make a good manure. The ploughing turned up the old sod which had not been disturbed during the season, and it presents at this time on the surface the appearance of a rich coat of manure, and I would not exchange the chance for wheat from this piece for that

of any other of the same size—if I live till next harvest I will let you know the result.

I think there is an average crop of corn in the valley of the Susquehanna, from this to Wilksbarre, say 45 miles. The crop of hay never was exceeded; wheat excellent; rye and oats rather light, buckwheat very light, having been destroyed in most instances by the frost in the early part of September.

Respectfully, your friend,

JOSEPH PAXTON.

On the Varieties, Properties, and Classification of Wheat.

[Continued.]

ON THE NECESSITY OF PRESERVING CROPS PURE.

Some corn factors have declared that it will be impossible to grow wheat in this country, of such fineness, whiteness, and beauty, as is raised in the Polish Provinces of Volhynia, and Sandomir; unquestionably, if success should attend the husbandmen in discovering a variety, as plump, white and thin skinned, as the celebrated white sort, a small portion of which forms the precious part of that which is imported under the name of "high mixed," it might prove an interference with their line of business; as the English baker would then look to the English farmer, for the most valuable meal he requires.

In almost every branch of Horticulture, or Floriculture, science, to meet the calls of luxury, has succeeded in triumphing over the impediments opposed to it by climate and distance. The pine, the peach, the melon, are grown in equal, nay, some assert, in greater perfection in England, than the indigenous fruit; and the dahlia, geranium, and lily tribes, are more varied than in their native soils, and by seedlings are naturalized to ours.

These fruits and flowers are all classed and named; so are apples, pears, gooseberries, and a multitude of other fruits. The "Coccagee," or "Siberian bitter sweet," may be recommended as the best for cider, and no good ciderist would think of mixing every apple of every color, ripe and unripe, for his mill, but makes his selections from pure sorts, whose properties and qualities are known. Strange that the same attention to selection and purity, has been overlooked in that product which is the chief sustenance and comfort of the human race.

It only remains to discover those wheats which will grow in this climate, without becoming flinty, or thick-skinned,; and if they cannot be obtained of varieties from abroad, they may be got from seedlings at home.

The Gracious Author of all things, may have bounteously spread and multiplied this precious plant, for the very purpose of leading men to seek out, and discover those sorts, which are adapted for their respective climates; and patient research only, may be required to ensure success. May not some intelligent husbandman in Volhynia, perhaps only a shrewd practical farmer, have discovered one sort, which exactly suits its climate, as also the market it is intended for; and without having written a treatise on the subject, may he not have distributed it as a precious boon to his countrymen? Is any corn factor prepared to say, that all the wheat grown in Volhynia, and Sandomir, is plump and perfect? That no varieties are grown there, which may appear coarse, lean, or shrivelled? Not having been there, I am unable to speak from personal experience; but evidence, as far as examination goes, and hearsay, lead one to believe that there, as well as elsewhere, seasons affect wheat, and deteriorate it, both in its appearance and intrinsic value.

Hence, it is confidently assumed, that it only remains to be ascertained which are the best British wheats, in order to secure them of British growth from the climates of England, Ireland, and Scotland, as pure, plump, and thin-skinned, as the choicest "high mixed."

I have shown the great productiveness of some sorts. I have often found, among some of the Dantzic white wheat, a coarse red thick-skinned sort, which in the ear was precisely similar in appearance to the proper one to be cultivated; even so similar, as to be undistinguishable from it, when viewed by Professor La Gasca and myself, through a magnifying glass; it was only on examining the grain, that the inferiority of one of the two was perceivable: therefore, where seed is not originally procured pure, it should be selected, and all the grains of a different shade from the approved sort, removed; or the mixture and deterioration of a crop might be such, as to lead a farmer to wonder, how it could thus have *degenerated*, as it is termed, in the short space of a season or two, in defiance of the expense he may have incurred, or of his care and diligence.

Two years ago, a farmer requested me to view a *very pure* crop; there was no mixture in it! In merely walking round the crop, which, in fact, was both pure and fine, in common parlance, I selected from it ten varieties; had I gone into it, ten more would probably have been found. A crop of this variety, the Duck's Bill, then originally procured from Kiel, in the Baltic, which I saw this year as a second year's produce, is so intermixed, as almost to make it difficult to pronounce what variety it is intended for.

The Duck's Bill, to which I allude, is very subject to shake out from the ear, if at all over ripe; and has proved to be only fit for making pastry, as it is too tenacious for the purpose of making household bread: hence

the necessity of not only having wheat crops pure, but of knowing their particular qualities and properties.

ON MEAL AND BREAD.

The main object of farmers has been, merely to grow the largest possible crop of wheat, whereas the true aim of corn growers should be, to produce the largest quantity of meal or flour. It is to the real nutriment we should look—to those transparent, thin-skinned wheats, which are enveloped in so fine a husk or coat, or in so little bran, and contain so much meal, that when compared with the coarse red wheats, one is almost surprised the plants should bear the same name: some of these last having a large portion of thick, coarse bran, with dark, coarse-looking flour, affording much less bread than the former varieties, and that of an inferior quality.

Some of these coarser descriptions of flour, are prepared for sale by being mixed with potatoe flour, or other compounds, to make up that adulterated bread which is often met with in cities. I have known bread, made from a judicious admixture of winter and spring wheats, to preserve a wholesome moisture, and to continue of good flavor for eight or ten days, whereas most bread thus kept, would have become so dry as to be scarcely eatable, perhaps even mouldy.

The difference of the nature and property of meal produced from various wheats, is such, that it should be clearly made known, and established, in order to enable millers to name the portion of dry light flour, or the portion of flour of a moist nature, required; or that the combination of two, or more sorts, would exactly suit their purpose.

The growers should supply the millers with wheat of known qualities, and the millers form the mixtures as the bakers might desire.

It will be recollected, that in order to ascertain the relative specific gravity of each variety of corn, the number of grains were noted that exactly weighed a scruple; see Table A, No. 2, page 47. Such was their difference, that it only required fourteen grains of one sort, of my own growth, to weigh a scruple, whereas it took forty-two of a sample from the Baltic, which, probably, must have been kiln-dried, as not one grain sprouted. It is assumed that this may be a good mode of ascertaining which contains most meal, as it appears to be consonant to reason, that the heaviest grains should generally contain the greatest portion of farina, though I am yet unprepared to say positively that the latter must be the finest, or whitest.

This attempt to ascertain the comparative weight of many varieties, by merely weighing them, led me to prosecute my researches from the straw, and grain, on to the meal itself, in order to be fully satisfied which of the fourteen sorts under experiment, contained the greatest portion of meal or flour.

Hence, I hoped to ascertain, if the most productive sort in grain, should also prove the most farinaceous; a great and important desideratum. I am truly happy to say that such was almost the result. I shall indicate how much further it requires to be prosecuted, to establish it.

The mode I adopted, was to strike a measure full of each sort of wheat, which was then ground by myself in a small mill. The scale of weights used, was sixty-four grains apothecaries weight, equal to one gross, and eight gross, equal to one ounce, or sixteen to the pound.

It will be seen by referring to the table, [C, page 49] that a measure of No. 1, or Jersey Dantzic wheat, weighed one ounce, five gross, and twenty-eight grains; this produced one ounce and forty-two grains of flour, with only four gross and twenty-four grains of bran: whereas, the most inferior variety, or that, which produced most bran and least meal, from the same measure, produced only six gross, three grains of flour, and six gross, thirty-seven grains of bran—in fact, more bran than flour. This, however, is not a conclusive experiment to determine the growth of wheat on an extensive scale, as no one, it is hoped, has yet had the misfortune to grow a pure crop of a very bad unproductive sort. But, if such were the fact, the difference in the produce of meal, in addition to the excess in the produce of grain, of the superior over the inferior variety, would, if carried over the five millions of acres employed in the cultivation of corn in the United Kingdom, make the quantity absolutely enormous.

Any person may, by examining the tables find out the difference of produce in any two of the sorts, or the superiority of any one good sort, over the other thirteen sorts, which, together, make up a mixture to be found in most fields; by which he may satisfy himself as to the positive advantage of establishing which is the variety of wheat best suited to his own particular locality.

The experiments made as described above, have led to the following results, in the three following varieties of my own growth.

From a downy or hoary variety, eighteen pounds of flour, with half a pint of yeast, five quarts and a pint of water, and one ounce of salt, made *twenty-six pounds* of beautiful light, white bread.

From a Dantzic wheat flour, the same quantity, with the same proportion of yeast, salt, and water, made *twenty-four pounds and a half* of *very* white bread, similar to French bread.

The same weight of spring wheat flour made *twenty-four* pounds of inferior, brownish bread.

The same weight of Rostock and Dantzic flour, from wheat grown in the Baltic, made only *twenty-three* pounds of bread, very light and good, but not so white by many shades, or well flavored, as that made from the two first varieties of home growth.

These experiments having been made in my own presence, may be relied on. The dough was worked in the French mode, not pushed down, turned and worked with closed hands, but drawn up into long strings and repeatedly lifted, in order to expose it to the action of the air as much as possible, which tends greatly to improve the bread, by rendering it more light and easy of digestion.

The superiority of the meal of the hoary variety of wheat, which furnished three pounds more bread on a baking of eighteen pounds of flour, or an increase of one sixth, over the Dantzic and Rostock, which was also a very fine sample of flour, is thus clearly established.

It is said in the article "Baking," in the 2nd volume of the Encyclopedia Britannica, "that a sack of flour, weighing 280 lbs., and containing five bushels, is supposed capable of being baked into eighty loaves, in the Act of Parliament regulating the assize upon bread. According to this estimate, one fifth of the loaf consists of water and salt, the remaining four-fifths of flour. But the fact is, that the number of quartern loaves that can be made from a sack of flour, depends entirely upon the goodness of that article.—Good flour requires more water than bad, and old flour than new. Sometimes, eighty-two, eighty-three, or even eighty-six loaves, may be made out of a sack; sometimes, scarcely eighty."

Now, assuming these data to be correct, the results I have obtained, prove that the hoary wheat, No. 8, will afford flour that will make ninety-three quartern loaves from a sack, being a superiority of ten loaves on each sack, taking the medium number eighty-three; and this, be it observed, without adulteration, the pure home-made bread, unmixed with alum to whiten it, or potatoe meal to moisten it.

This superiority, be it further observed, is over a good quality of flour, not over that of some spring wheat, or inferior red wheat, both of which I shall indicate hereafter.

ON MANURE FOR WHEAT.

The effect of different manures on wheat, is very remarkable; it will not be necessary to say much on the subject, as it is almost exhausted, having been fully treated by far more able pens; but having made some experiments on the subject, I may be excused from publishing their results.

I confine my observations to those manures which are within the reach of most farmers, with one or two exceptions.

Stable manure will, in ordinary good soils, have the effect of causing the plants to tiller much, or to make straw and grass; thereby diminishing the produce in grain and meal considerably.

Liquid manure, one third stable drainings, and two thirds water, which I caused to be poured once, over wheat that was just tillering, made the straw grow rank and coarse, the grain of every variety of wheat was dark and thick-skinned, hence, containing less meal.

The same quantity and mixture of liquid manure, poured a second time over another portion of wheat, caused it to grow so rank and full of leaves, rather than straw, that only a few of the plants produced ears of wheat, some having run up into sharp points, with merely the rudiments of ears indicated. The few ears that produced grain, displayed it in its worst form, hardly in the shape of meal, of a doughy soft texture, evidently unfit for the food of man; besides, some of them were smutty. Thus, an over application of manure, excellent, when judiciously applied, becomes a poison, precisely in the same manner, as in the human constitution, a surfeit is usually the parent of some disease.

The wheat on either side of these experiments, which had only been manured with the ashes of kelp, or sea-weed, was healthy, productive, and farinaceous in the highest degree.

My attention was particularly called to the proper application of manures by an old and experienced farmer, who considered Kelp or the ashes of rock sea-weed, that which is cut, the best of all. I am convinced by subsequent experience, that two or three prounds worth of it, per acre, spread at the proper period, about two months before sowing time, would always more than repay itself.

It attracts moisture from the atmosphere, it materially increases the volume of the grain and fineness of the sample; but does not add to the weight of the straw, though rendering it whiter and more nourishing to cattle. It causes the wheat to assume a rich healthy appearance, and is an excellent application after a crop of potatoes or parsneps, both of which, require land to be richly dressed with stable or other strong manures, and has not the effect of decomposing them, as lime does.

It is also destructive to insects, and to their eggs, which lie in the soil or turf—it forces the earth-worms and wire-worms from their lurking places to come to the surface and die; particularly when laid on, in a larger quantity than I have named, some farmers being in the

habit of putting on double, even treble the quantity above stated—but I believe, without having produced proportionably larger crops from inferior land; though it has been asserted that its effect is very permanent, being especially apparent on the succeeding clover crops.

I am inclined to believe, that paring and burning an old ley, will almost produce an equally good effect, where the land is suited for it—for, although the ashes may not be of that superior quality, or possessing all those virtues peculiar to kelp ashes; still, the much greater portion of ashes, that can by this means be spread on the land, may make amends in quantity, for quality.

An additional circumstance in favor of paring and burning, is, that all the seeds of weeds, or the eggs of insects which lie concealed in the turf, are thereby destroyed, more effectually, than by any repeated ploughings.

The careful experience of five years on this head, has convinced me of the propriety of this practice occasionally; especially on ground infested with couch, or knot grass. From three acres of land that had been pared and burned, which produced five hundred and forty single horse loads of ashes, I obtained a very heavy crop of turneps—the following year I raised ninety-one thousand pounds of potatoes; and, by an application of about forty-five bushels of lime per acre, I have since reaped fifty-one imperial bushels of beautiful wheat per acre; the straw, also, was of very fine growth, five feet high, and exceedingly white and bright.

Kelp ashes should lay on the surface of the soil a month or two previous to sowing time, in order to weaken their caustic power, or they are otherwise apt to burn the young and tender shoots of the grain as well as the larvæ of insects; but, by laying a certain length of time on the surface exposed to the action of the atmosphere, or perhaps, what would be better practice, merely lightly turned into the soil, they become eminently beneficial.

I am so partial to the use of ashes, that I should recommend those who have large woods or forests, to employ women and children to collect the dry and broken boughs, and under shrubs, to be burned for the sake of the ashes; which would be found nearly equal to those of sea-weed, and could thus be procured at a much cheaper rate; besides gaining the advantage of converting what is now wasted, or neglected, into a most valuable and permanent manure, perfectly free from weeds, and destructive to insects and worms.

Ashes are further beneficial, inasmuch as they attract the moisture from fogs and dews, and retain it a considerable length of time.

Lime is so well understood as a manure for wheat, that it would be a mere waste of time to say more on the subject, than as far as my own experience goes: it appears to impart a greater degree of whiteness to the straw than any other manure. Its other excellent qualities of absorbing moisture from the atmosphere in dry weather, on light or gravelly soils, and increasing the weight of the grain, are well understood; it is to be lamented that some general rule for its application is not made known, as, in the best books I have consulted on the subject, it varies in the extraordinary proportion from fifty-six to five hundred bushels per acre, which last appears to me to be an absurd quantity.

I have found it to answer perfectly at the rate of forty or fifty bushels an acre on a good loam, and I should apprehend that double that quantity ought to be sufficient for the poorest land; unless it be to destroy moss, when a still larger top dressing is required, which, if well harrowed in, does it effectually. This commixture of turf and lime, if soon after ploughed in, in turn becomes itself a manure for the very soil the turf previously rendered barren.

Soot is said to be an excellent top-dressing. I have tried it but once, without having perceived the advantageous results that are said to be derivable from it; it is only in the environs of towns, or villages, that it can be obtained in sufficient quanty to be available to a large farmer.

[To be continued.]

For the Farmers' Cabinet.

Cooking Grain for Stock.

In compliance with the suggestions made in the Cabinet, several farmers have procured and put up large boilers for the purpose of cooking corn and other grain for their stock, and so far as trial has been made, it answers expectation fully. In one case two bushels of the hard Dutton corn was subjected to the operation of cooking for several hours, until it was fully expanded; it was then measured accurately, and it was found to have increased in bulk to five bushels and half a peck. This was a greater increase than was anticipated, and it is thought that the softer, lighter kinds of corn would not increase so much, perhaps not more than double, but trial has not yet been made of it.

A cask perforated with holes in the bottom, it is found, may be placed on the top of the boiler, and filled with pumpkins or potatoes, and the steaming of them may go on at the same time that corn, buckwheat, or oats is cooking in the boiler below. One farmer has adopted the plan of breaking the ears of corn into pieces three or four inches long, and then boiling or cooking them without shelling, and in that way feeding corn and

cob together: his success so far in feeding some fattening cattle has been very satisfactory and encouraging.

In order to economize fuel and to procure the full effect of the heat, it is very important to have a grate under the fire, with a door to shut close where the fire is put in, so that the air to supply the fire may pass in under the grate only, for where a fire is supplied with air, which passes between it and the boiler, it is constantly carrying the heat up the flue, and tends to keep the boiler cooler than it ought to be from the quantity of fuel consumed; but when the air has to pass through the fire from below, it is thoroughly heated before it comes in contact with the boiler. After the fire has burnt down so as not to need ventilation for the smoke, the flue or pipe should be closed above, and the access of air under the grate prevented by a suitable stopper or door; this prevents the circulation of cold air from conveying off the heat from the brick work and boiler, and the process of cooking will be carried on for hours after the fire has burnt down, provided the access of cold air is prevented. The fireplace should not be made larger than that of a small stove, and the brick work should be brought pretty well up to the boiler, leaving but a small space around it for the smoke to pass up. A boiler of the kind referred to, is of good value to a farmer for other purposes than cooking grain, and one of them ought to be put up on every farm in the country, and to be considered as much a fixture as a corn crib or pig pen. B.

For the Farmers' Cabinet.

On Silk and Morus Multicaulis.

In the last number of the Cabinet at page 80, I have been surprised to find a long article upon the Morus Multicaulis. The right of *free discussion* in a free country I will not controvert, but I do deny the right of any individual to call me a speculator and gambler, because I chose to purchase multicaulis trees and plant and cultivate them upon my own land, if in my opinion it is more expedient or profitable to do so than to raise grain, corn, potatoes, or any other crop.

If the present price of the multicaulis tree and its value *in use* is such as to justify me in expecting that it will handsomely reward me for my outlay, and the expense of taking care of and cultivating it, why should I not be at the liberty to do so as well as to attend to any other crop.

Your paper is essentially an agricultural one. It is distributed amongst farmers to communicate information to them in reference to their calling, and your correspondent tells them that if they cultivate the multicaulis tree they are in fact speculators and gamblers.

Do the facts connected with the history of this tree and the silk culture justify such wholesale denunciation! The multicaulis tree has not been cultivated in Europe more than twenty years, and its value as a food for silk worms has only been recently properly estimated there. It is therefore comparatively a rare tree. It is now ascertained, however, that it is the greatest known bearer of food for the silk worm—that its leaves are larger and more readily taken from the tree than those of any other description of mulberry—that it is constitutionally hardy, indeed more so than most trees known to us—that it will bear to be buried in the earth for the six winter months, and in the spring when dug up be a vigorous and healthy tree: that when planted it may be entirely covered with earth and will still vegetate, and the parent stem will become the roots of a large number of healthy trees—that when growing it will bear to be handled roughly and stript of its foliage, and still retain its health and vigor—that it will grow luxuriantly upon all soils, whether arid sand or rich and moist land—that the hottest summers give it the most vigor, and that it will in the open air bear the rigors of our winters without injury, when three years old.

There is now a multicaulis tree in the garden of Daniel Maupay, near this city, which has not been removed from where it now stands for three years past, and has had no protection from the inclemencies of the weather, and yet it has not been in the slightest degree injured by the severities of the three last very severe winters. I state this fact as on offset to the remark of your correspondent, that "it is well known that the whole of the tree that is above the ground is frequently if not generally killed in this latitude by the frost." The fact is that this tree is recommended in France as well calculated for the northern regions of that country, the rigors of the winters of which are at least sufficient to destroy trees peculiarly tropical. But enough of the capacity of the tree; what is its *value in use?*

1. It can be cultivated without much expense, to an unlimited extent.

2. It is ascertained that worms when fed upon its leaves, make the strongest, finest, and most lustrous silk.

3. That the cocoons are larger than those produced from any other description of mulberry.

4. That the worms feed freely upon the leaves, and that when fed upon them they are not so liable to the diseases to which they are subject, as when fed upon any other variety.

5. That they produce a much larger quantity of foliage than any other species of mulberry.

6. That their leaves are gathered with much less labor than those of any other kind, and that in feeding them there is much less waste or litter.

7. That its rapid growth enables the feeder to use its foliage the same season that it is emerging into existence as a tree.

These are some of the reasons of its *value in use*. That it will long retain its present value in exchange I do not feel myself competent to determine. To ascertain that proposition accurately would require some "cyphering." What is to be done in the business of cultivating silk will very much depend upon circumstances. The legislatures of three states have discovered, through the medium of *borers* if you please, that silk is an article intrinsically of great value—that there is an immense consumption of it in this country and in Europe—that there is scarcely an individual to be met with whose apparel is not composed in part of that article—that the importations of silk cost this country annually about $25,000,000—that there is not a country on earth where the mulberry tree will thrive better, or the silk worm will feed with more avidity, and enjoy better general health than our own, almost from one extremity of it to the other. That our people are sufficiently intelligent and enterprising, industrious and patriotic to supply their country with this precious article, but that they must at first have some aid from their government. They must have time to learn the nature and habits of the worm. They must be made acquainted by actual observation, with the best system of rearing and feeding. They must have time to erect their cocooneries, and to be informed of the best fixtures for feeding and spinning upon. Upon these subjects we are as yet very much in the dark, and our citizens should be encouraged, and receive premiums from the state for concentrating such information, and giving the country the benefit of it. I am persuaded that the same amount could not be expended to ensure more advantageous results to the state and country generally.—We have already some little light as regards the enormous profits realized by the manufacturer and merchant of this article, and recent experiments have proved that American silk is in no wise inferior to the best silk offered in the European market.

The premiums now offered will give an impulse to the producer, which will, I trust, firmly establish the silk culture as a permanent branch of agricultural industry. Heavy duties would be burthensome to the public, and of no service to the producer.

We already hear of large orchards to be planted the ensuing spring, and of large cocooneries being built and to be built for the purposes of feeding. We learn that the demand for eggs is so great, that they will now command forty to fifty dollars an ounce, which shows that the tree is to be used for feeding next year.

If the advice of your correspondent was followed, and no one was to plant more than one hundred trees, where would those who may wish to enter into the business next year obtain their supplies. Beware of monopolies. That the legislatures of the different states will offer premiums for the production of silk I do not doubt. That there will be a consequent demand for trees next year, I confidently expect. If this country is to supply herself with this valuable and necessary article, can any man imagine the immense number of trees that will be required for feeding, and if extensive manufactories are established (for there are some small ones in operation now) and their fabrics should be exported, can any one estimate the number of persons who will be employed in its production, and the immense amount of wealth that will be retained and obtained by this country from its production and fabrication. There must be a beginning, and I think this business has now got a fair start, and will "go ahead" in spite of all the hard names used by your correspondent.

The life of the silk worm is not quite of six weeks duration, during two or three of which he is so small as to require comparatively but a small quantity of food. The labor therefore of attending and feeding silk worms is only required for three or four weeks. Mr. Stone tells us (Cabinet, Vol. III. page 98) that the hands necessary to produce 100 lbs. of silk, is a man for one week alone, the second week a boy or girl will be wanted to pick leaves, and after that another person equal to a full hand will be all that will be required to finish the crop. He also states that at the rate of fifty pounds of reeled silk to the acre has been produced from the first year's growth of trees. He estimates the expense of feeding and reeling the silk at not more than $2.50 per pound, and states the value to be from $4.50 to $6 per pound. The average is $5.25, and the profit on fifty pounds or the produce of an acre of trees the first year will be $137.50. But we are assured that 3333⅓ lbs. can be produced from an acre of multicaulis trees, and that the profit thereon, all expenses paid, is $1463.33. (See Cab., Vol. II. page 155.)

For the reasons above enumerated, I do not doubt that your correspondent is in error, and that the present value of the trees does not arise so much from a spirit of speculation or gambling in the purchaser, as from a fair estimate of their present intrinsic value. I feel confident that the legislatures of the other states will see the wisdom and will follow

the example of Pennsylvania, New Jersey, and Massachusetts in offering premiums for silk, and that it will be one of the staple productions of this region of the United States, and be for it what cotton and sugar have been for the southern agriculturist.

According to my "cyphering," the multicaulis will probably maintain its present, if not a higher value, until it is generally distributed throughout the country, a period somewhat remote as I apprehend, notwithstanding its immense capacity for increase.

Although an ingenious and disparaging comparison has been made by your correspondent, between the desire to obtain these trees, and the ruinous speculations in merino sheep, in regard to which, however, I can see no analogy, I still maintain, for the reasons herein stated, that there will be, for some years to come at least, no mistake in

MULTICAULIS.

Observer.---No. XVII.

INSURANCE OF FARM BUILDINGS.

"Nothing extenuate nor aught set down in malice."

The progressive development of mind, and the gradual improvement of our moral code, have condemned many opinions and rejected many practices which were once considered lawful and just. Nor can it be presumed that we have yet arrived at a degree of perfection where further reformation is unnecessary. It would therefore be impolitic and unwise for us to stifle investigation, or attempt to stay the onward progress of social and moral improvement. Let us then examine all things freely and with candor, and hold fast only what is found to be good.

I have had too much intercourse with my fellow-men—I have read too many lessons of experience to expect that opinions sanctified by time, however erroneous—or popular and lucrative institutions, whatever may be their tendencies—can be attacked with impunity.

There are no doubt many who have given insurances their tacit support, without ever considering their nature and tendencies, and who cannot now readily condemn their past conduct, or patiently endure others to do so. Another class, still deeper implicated, conceive that the sanctuary of their private interests is invaded by the remarks of Observer, in his 15th number. I do not wonder that they have caused a good deal of "fluttering." All this was anticipated, as will appear from the following paragraph, which was written and publicly read in connexion with those remarks during the last winter.

"Some will perhaps say that this is a rude and wanton attack upon a class of institutions which have long been sanctioned by the wise, and approved by the good.—That it casts an illiberal imputation on the character of many, very many, of our best and most respectable citizens who would deprecate even the semblance of evil. To do so is no part of my object. I do not wish to impugn the motives of any, or accuse them of intentional wrong. I have to do with principles, and not with men. The general sanction which the practice has received—the approval of ages and nations has placed it almost beyound the reach of suspicion, and will hardly allow the imputation of a fault. Many of my most particular friends and acquaintances are among the number of insurance speculators. Men whose integrity of purpose is unimpeachable, and who would abandon it at once and forever, if they could view it as I do. Entertaining as I do a thorough conviction of the correctness of my views—the extent of the practice, the respectability of its advocates, and the fortresses behind which it is entrenched in the confidence of the people, may render a higher degree of moral courage necessary to make the attack; but they increase in a corresponding ratio my obligation to attempt an exposition of its delusive and dangerous tendencies."

It will be perceived that my remarks were addressed to, and apply to the condition of farmers. In country situations the misfortune or the negligence of one man does not often involve the loss of his neighbor's property by fire. There is less danger from fire, and consequently less security from insurance than in towns.

I had written thus far in reply to the editorial strictures on my article, (p. 71) when the last number of the Cabinet was laid on my table, containing Subscriber in the true "rough and tumble" attitude, and bringing the horrifying intelligence that my "facts upon the main point are all used up." My pen fell from my fingers, and

> "Abash'd and silent I remain'd
> As conscious of my tongue's offence; and awed
> Before his presence; though my secret soul
> Disdain'd the imputation."

After reading the portentous article, I again took courage and ventured to proceed. I soon perceived that only some of my facts had been "used up," and that even these were only so "used up" in his own opinion.

Subscriber very properly asks and answers the question "how are insurance companies organized?—by individuals depositing or pledging (mark this) a large sum of money in the form of stock to pay losses by fire."—Observer knew all this. But the stock of the company in most instances is only pledged—as he admits it may be—and not paid in—or, if paid in it is as he says "invested in permanent securities and receives a fair interest." I must, therefore, demur to the conclusion of

Subscriber, that "all the expenses and the risk of the *whole capital* must be met by the small premiums." Why should not the interest accruing on the invested funds go to meet the risk? Or rather, why should the risk be met? Why even call it a risk at all? I have shown from facts which he has not attempted to "use up" that the premiums in the case would amount to more than *seven* times the actual ordinary risk of the insurance. Hence the company would speedily accumulate sufficient funds to defray all its expenses, remunerate the losses from fire, and pay large dividends to the stockholders for *capital not paid in*, but which was invested and yielding an interest from another quarter. But the capital is "pledged," and must therefore be secured by a suitable dividend against extraordinary losses. This is unreasonable. I know of no other method to settle a question of risk, than to ascertain the probable amount from all the data we have in our possession, and to take that amount as a mean—it may be more, or it may be less. The chances will then be equal. Now according to my estimate, the mean risk on a barn worth $1000 would be 28½ cents—the premium claimed is $2 10. Hence "the chance of the game (in each particular case) is always in favor of the insurer and against the insured, as more than *sixteen to one*."—(See page 43.) These data and estimates are a near approximation to the truth. Besides, when the mean risk is ascertained, the fear of greater loss is balanced by the hope of its being less. As I have said, the chances are equal.

When the company extorts such an excess of premium over the mean risk, they stand in little need of any other security for stock which is only pledged. Subscriber might, on the same principle, and with equal propriety demand an exorbitant price for the produce of his "banks of earth and stock of Durham cattle," because they are exposed to the risk of being sunk into oblivion by an earthquake.

In the hurry of his "rough and tumble," Subscriber has disingenuously mutilated my language and perverted its meaning. Instead of saying "the chance of the game is always in favor of the insurer and against the insured" he quotes "a game always in favor of the insurers and against the insured." In a lottery the *chance* is always against him and yet he *may* draw a prize. "Comment here is unnecessary." If he cannot "use up my facts" by fair argument, he can hardly do so by perversion.

Again, Subscriber says "when money is paid for insurance, value is received—because it is as valuable for a man to diminish his losses as to increase his profits." This assertion is what he terms "a mere hap hazard kind of affair." It may be true or untrue. If there is no loss sustained, there can be no value received. If a man has lost nothing he cannot diminish his loss. What value has he received to remunerate him for the $728 paid to insurance companies? He has "not been burned out once,"—how then has he diminished his losses by fire to $728 less than nothing, so as to balance his accounts? Did the protecting ægis of an insurance cause the devouring element to pass by his property, and thus afford him *value* for the money expended? So far has insurance been from proving to him "a good bridge over a deep and dangerous stream," it has led him directly into "a shop" where he has gambled away $728 and won nothing. This is "using up" his own facts with a vengeance.

The objectors say there is a radical difference between insurance and lotteries, as much as between "incendiaries who set fire to houses, and the generous hearted firemen who put fires out." In the one they tell us there are many blanks and few prizes. The chances are a hundred to one against the adventurer. The other has no blanks—the insured is certain of a prize, the value of which is determined by himself. The reverse of this appears to be true. An insurance scheme consists wholly of blanks. There is not one prize in it till created by casualty. The insured can only obtain value by the destruction of his property. Until that disastrous event happens he draws blanks, and only blanks continually, as Subscriber has done for 26 years past, and probably will continue to do, if he should live, till he has "gambled" away several times more money than his property is worth. It is a game in which the only hope of winning hangs on misfortune. If the lightning of heaven is stayed; and if no *fortunate* accident, or *kind* incendiary shall kindle the fire, the player must do so himself, or be content to lose the game.

Subscriber admits that "lotteries are formed and operate just as Observer says,"—and I have shown that it is also true of insurances. He acknowledges that "the plan proposed by Observer is a very good one; and hopes that it will grow into general use." I cordially thank him for this expression of good opinion, and shall expect him to aid in carrying his own recommendation into effect. But when he says "as to principle, Observer's own plan of insurance is as much a species of gambling as the institution he complains of," I must immediately lose the hand of fellowship.

In the proposed plan the members give and receive similar and equal pledges, and incur similar and equal responsibilities. The premiums paid amount to no more than the losses sustained—and the money is confined to their own body.

In the plan under discussion, the insured give a certainty for an uncertainty—money

in hand for a mere promise of remuneration, conditioned on casualty. They pay many times more than the doctrine of probable chances will warrant them to look for in return—and they pay it to speculators—to the mere drones of society, who are thus fed with roast beef and loll on the couch of indolence and luxury, at the expense of the laboring class.

Subscriber says "one plan may be more economical than another" and that "you may buy insurance too high." These are important truths—farmers, look to your best interests.

P. S. I am much pleased with the communication of a correspondent on *Morus Mania*, page 80:—and can say amen to his sentiment—"there is little difference between a speculator and the gambler who is led on by small gains or losses until he becomes so perfectly infatuated, that he would venture the world if he had it, on a single cast of the die."

New Garden, 10th mo., 25th, 1838.

[Above we give our readers the reply of "Observer" to the strictures of "Subscriber," as published in our last. The article, in some respects, we think is unnecessarily severe, but we publish it entire as an act of justice to our able and intelligent corresdent. The subject under discussion is one of great moment. Every owner of property, liable to injury or destruction by fire, is interested, and we believe it to be the duty of every individual owning property of this description, to see that it is insured against loss by fire, unless he is sufficiently before-hand to become his own insurer—or in other words, able to sustain loss without detriment to the interests of his creditors and his family.—There are many such. We wish there were more. But it is generally the case that individuals of this class are insured; and therefore they contribute their proportion to any loss that may occur. Insurance is a voluntary act on the part of the insured—he agrees with an individual or a company, that in consideration of a certain sum of money, by him paid over at the time of the agreement, the individual or the company perform certain acts, (indemnification from loss by fire, if you please) in the event of a certain contingency occurring. If the contingency does *not* occur, so much the better for all the parties concerned—if it does, the party insured goes to the insurer, and instead of asking him for a contribution towards rebuilding his barn, he demands as a *right* that it be rebuilt, or that the means of rebuilding it be furnished him. And is there any thing wrong in this? We think not.—We do not so read "Observer." If we understand him rightly, it is against the *abuses* of the system, and not against the system itself, that he wars. That abuses have crept into, and poisoned many insurance institutions, we are not prepared to deny—and that whenever this has been the case, it is chargeable to a reckless spirit of speculation we admit. But surely the institutions of our city, and the mutual insurance companies of the surrounding country are not obnoxious to this charge, neither do we believe that those to whose management they are confided are speculators, "mere drones of society, who are thus fed with roast beef and loll on the couch of indolence and luxury, at the expense of the laboring class." This is severe language, but not too severe where it will justly apply; and if we mistake not it will suit more than one meridian, and will apply equally to all who are endeavoring to "*get something for nothing.*"

We have received several communications on the subject, among them one from a gentleman of high reputation, who felt himself aggrieved by the remarks of Observer; but he had evidently misapprehended the drift of our correspondent, and on re-perusing the article he saw at once his error. An esteemed friend witing to us on the subject of the Cabinet, refers to our last number and says:—"The second original article on lightning rods is well written, and comprizes exactly that species of practical information on the subject, which every intelligent man wishes to possess, and which has been much inquired after since the numerous awful catastrophies of the past season. "Observer" writes well, and the present excellent essay makes some amends for the erroneous views he promulgated in a previous number on the subject of insurance against loss by fire." We cannot take leave of this subject without

again urging upon every farmer whose buildings are not insured, the importance of attending to it *without delay.*—"Delays are dangerous." One of our subscribers, Charles H. Hill, of New Jersey, says, that for many months he was deliberating upon the matter, and before all his arrangements were completed and his mind perfectly satisfied as to the utility of paying so high a premium, the casualty occurred, and his barn, with its contents, valued at three thousand dollars, was consumed before his eyes. He could not ask his neighbors to make good his loss, and having no insurance, it was total. He says, "I hope that my case may be a warning to my brother farmers. I now see wherein I have erred, and intend for the future to mend my ways."]

For the Farmers' Cabinet.

Quantity of Nutriment in various Substances.

As the patrons of the Farmers' Cabinet are consumers as well as producers of food, it may not be uninteresting to them to be informed of the result of the examinations of scientific men in regard to the quantity of nutriment contained in various substances which are used for the sustenance of animal life. Food taken into the stomach is there digested, and the nutritious portions of it converted into blood, which is conveyed by the proper vessels to every part of the system for its nourishment and support. Any portion of it which from any cause escapes the digestive process, and those parts of it which are not adapted to nourish the animal body, are cast off as excrementitious.

Animal food is generally assumed as containing more nutriment than vegetable or farinaceous, and comparing bulk with bulk it is no doubt the case, but when weight is brought into competition with weight, which seems to be the correct standard of comparison, we find it falls far below a number of vegetable substances in regard to nutritive properties. The following table shows what has been determined by chymical analysis in regard to this important matter.

100 lbs.	Wheat	contain	85 lbs.	nutritious	matter
Do.	Rice	"	90	"	"
Do.	Rye	"	80	"	"
Do.	Barley	"	83	"	"
Do.	Beans	"	89 to 92	"	"
Do.	Peas	"	93	"	"
Do.	Meat, av.	"	35	"	"
Do.	Potatoes	"	25	"	"
Do.	Beets	"	14	"	"
Do.	Carrots	"	14	"	"
Do.	Greens & Turneps	"	8	"	"
Do.	Bread	"	80	"	"

It is much to be regretted that our most important and favorite Indian corn is not comprised in the above table; but the experience of farmers in regard to its nutritious properties, would induce us to place it very high upon the list, perhaps next in order to wheat; and if the quantity produced on a given space of ground be taken into view, it would take precedence of any other vegetable production cultivated in the country as respects the quantity of nutriment.

From the above table it appears that a pound of bread contains more than twice as much nutriment as a pound of meat; and that a pound of beans or peas contains more than two and a half times as much as a pound of meat. It also appears that seven pounds of potatoes are equal in nutriment to five pounds of animal food.

When I first entered into an examination of this subject, my previous notions in regard to the quantity of nutriment furnished by different substances was thrown into considerable disorder, and I suppose this will be the case with some of the readers of this article; but when we recollect that a very large portion of the human family in Asia and Africa, and not a small portion of the inhabitants of Europe, either subsist entirely or principally on farinaceous and vegetable food, and yet perform as much labor probably as the people of this country, it goes far to prove that animal food in large quantities is less necessary than we meat eaters have been wont to suppose, and tends to corroborate the correctness of the analysis exhibited in the foregoing table. O.

Under Beds.

Would you have good under beds constituted of materials that will endure? Then give up the old notion of filling them with straw, which soon becomes worn down to chaff, and requires replenishing once or twice a year,—and, if you have not corn of your own, go to some neighbor's husking, and preserve the inner husks of the corn for this purpose. The outer husks are a little too stiff; but the inner ones are soft and elastic when dried, and when once you have obtained enough of them to fill the bed sack, dismiss all trouble about that bed for years, for it will last probably as long as you live. It is quite an object for a family to have all their beds filled in this manner.

Those who till their ground thoroughly, put in their seed well, and nurse their crops judiciously, have not to reproach themselves either with negligence or indolence in case of a failure, and self reproach is the more bitter and harder to be borne, because it sticks close to our skirts both in our downlayings and in our uprisings.

For the Farmers' Cabinet.

Sowing Grass Seeds.

The importance of sowing grass seeds evenly, and sufficiently thick to occupy every part of the ground to the exclusion of weeds, cannot be pressed on the minds of farmers too forcibly.

In many cases there are not half the number of plants of the artificial grasses which could profitably stand on the alloted space of ground. The spaces unoccupied by good grass is wasted, and it would be equally reasonable for a farmer to let his cows remain with half the milk in their udders, as to permit his fields, that have been duly and properly prepared for the reception of grass seed to remain half covered with plants; and yet this is a spectacle which we annually see exhibited in the fields of many who are styled pretty good farmers. Nature never works this way; give her time and don't counteract her efforts, and she fills every space with some vegetable production. An intelligent farmer who is fully aware of the importance of having his fields evenly set with grass roots, states that in sowing grass seeds, he first passes over the ground, strewing about half the quantity proper to put on, and then he crosses the field sowing the other half, and in this way he disperses the seed more evenly, and he is less likely to leave vacant spaces for the occupation of weeds. This plan of sowing takes double the time to perform the work, but it is done much better, and amply compensates for the extra labor bestowed

Every farmer should make strenuous efforts to cause two blades of grass to grow where but one grew before, and then his animals will not be likely to cry out with the empty belly-ache. H.

For the Farmers' Cabinet.

Ice Houses.

In your last number I am requested by "Public Good" to state the number of cart loads it requires to fill my Ice House. I would with pleasure do so if I could, but have never kept an account of the loads. That he may, however, form some idea of the labor, I will state that I think it requires four men, the carter included, three or four days to fill it. The pond where the ice is cut is about a quarter of a mile from the house. The time required for cutting depends on the weather, the thickness of the ice, &c. The labor has always been performed by the farm hands, and I have never kept an account of the time they were thus employed. Last winter the cellar was filled to within about four feet of the square, a flood having soiled the ice in the pond, and yet I have now (21st Oct.) about four feet of ice remaining, although I have used it without stint, and sold some. Perhaps I should have stated in my former communication, that the pitch of my roof is north and south, the door therefore being in the gable, faces the east, and there is on the west a small window with Venitian blinds. The house is also well shaded with large trees.

The secret of preserving ice consists, I am persuaded, in having it kept dry and well protected from the rays of the sun and the influence of a heated atmosphere, which can be done by having it kept in such a house as I before described, and well enveloped in straw or any other non-conductor of caloric. I assure Public Good, that I have never had any difficulty in preserving ice from one winter to the next, and in cleaning out the straw we always find ice at the bottom.

A Phila. Co. Farmer.

For the Farmers' Cabinet.

Industry, Promptness and Punctuality, crowned with success.

Stephen Girard, the great merchant and banker, was also a great and successful farmer. He owned a farm of several hundred acres of land within a few miles of Philadelphia, the cultivation of which he superintended with his usual industry and acuteness. This farm was his principal hobby; for every day, at one o'clock precisely, his gig was in waiting for him at his counting-house door, and as soon as the clock struck one he started for his farm in the Neck, not suffering any matter whatever to interfere with his daily visit. During the afternoon he gave his personal attention to the various agricultural affairs requiring it, plying his own hands to any and every kind of business that was in season. In the evening he returned to the city to lodge, and the return of daylight, the next morning, would find him again engaged in the labors of his farm, which he would intermit so as to be in the city by nine o'clock to attend to his extensive and well managed commercial and banking concerns, and at one o'clock he was again on his way to his farm. He followed out this routine for twenty or thirty years, permitting no part of his business to suffer from neglect or want of attention. His farm presented a perfect model for imitation. His grain fields, grass grounds, orchard, and garden exhibited the most luxuriant and perfect appearance, while his stock of every kind, and poultry in all their varieties, were the finest and most perfect that were to be found in the country.

A distinguished foreigner, then resident in this country, on a particular occasion, had some special financial business to transact with the great banker, and 12 o'clock was fixed upon for making his visit for that purpose, but he did not arrive till the clock had struck one,

he was too late, the great banker was gone to his farm, and he followed after; on his arrival he was kindly and courteously received; he was waited on over the farm and through the barn-yard, but not a word could be extracted from Mr. Girard on the subject of his mission. He could now think or talk of nothing but agriculture and rural affairs, and his friend had to return to the city and learn to be more punctual to his engagements in future.

On an occasion, many years since, the city authorities were making an improvement at Market street wharf, and there was a large quantity of rich earth that had been accumulating there for a long series of years, to be removed, and any person was permitted to haul away as much of it as he chose without charge. It was deemed a good compost or manure, and no person knew better the value of manure than the rich merchant: he soon had his team at work removing it to his farm; an acquaintance of his who saw him superintending his work, remonstrated with him on account of the avidity and industry with which he engaged in what his friend thought so small a concern;—Oh, says he, "Mr. ——, I work to-day, if I die to-morrow." S.

For the Farmers' Cabinet.

Don't forget to Lime.

A short time since a farmer was inquired of why he did'nt use lime as a manure? His reply was, "I can't afford it."

What, can't afford to make your fields produce twice as much grain and grass as they have heretofore furnished; I don't understand that kind of logic.

Well, I don't see how I could well afford to buy lime; it costs money, you know.

Yes, it costs money, that is true; and what is the use of money but to lay it out in such way as to make it produce more, in the same way that we sow wheat and plant corn, in order that we may get more wheat and corn in return.

The true plan of using money is to vest it so as to make it as productive as possible; and there is no way that I know of by which a farmer can make his funds increase faster, than by so applying them as to increase the fertility of his farm.

That wise old farmer, William West, admonished his friends and neighbors "to be kind to the soil;" well knowing from his own experience that the result would be prosperity; but those who go on skinning and impoverishing it, are acting the part of the old woman who killed the goose that laid the golden egg; they soon arrive at that state when they think—

"They can't afford to lime."

There is a class of people in the world, and some of them are called farmers, who despise small things, and therefore they can never achieve great ones; they are too proud to thrive, and too lazy to grow rich; and because they can't do things on a large scale, omit to do them altogether, and these are the people— Who can't afford to lime.

George Esher, the worthy and successful farmer and horticulturist, who is referred to under the heading of "More fruits of industry and intelligence," in vol. ii. p. 306 of the Cabinet; humble as was the commencement of his career in life, could always afford to buy manure, because he knew that if he enriched his soil, *it* would in turn enrich him, and in this way they have been going on for half a century, conferring reciprocal benefits on each other, and it is now a question not easy to determine which is the richer, George, or his farm, for—

He never said he could'nt afford to lime.

Those who think they can't afford to lime much, should lime a little; make a beginning, for there is nothing like commencing to do right. A farmer some years since was prevailed upon to buy lime enough to dress about ten acres of his ground; this gave him a start, and the increased produce gained by this trial, has induced him to continue it since, and from that time he began to thrive, and now he thinks—

He can afford to lime.

X.

For the Farmers' Cabinet.

Curry your Cows.

The price of butter is such as to offer encouragement to farmers to try the effect of extra keep on their milch cows the coming winter; and in addition to keeping them warm, clean and comfortable, it would be well to try the effect of currying them. Horses and fatting cattle are well known to thrive much better where this operation is thoroughly and regularly performed, and the celebrated Dr. B. Rush, in a lecture delivered in 1807, upon the duty and advantages of studying the diseases of domestic animals, and the remedies proper to remove them, states that there is an improvement in the quality of the milk, and an increase of its quantity, which are obtained by currying the cow.

If some of our farmers would make trial of it as soon as they commence stabling their cows, and carefully note the result, and make a communication of it to the editor of the Cabinet, it would much oblige an

Old Subscriber.

No seed will vegetate without the access of air.

For the Farmers' Cabinet.

Queries respecting Lime.

I am pleased to find in the pages of the Cabinet, many sound and practical remarks relative to the judicious application of lime to agricultural purposes. But notwithstanding much has already been said, when we consider the vast importance of this yet *mysterious* agent, the growing interest attached to it, and the great agricultural revolution and reform which it is yet destined to effect, it is evident that much remains to be said.

While the march of improvement is thus onward, and new lights of wisdom and experience daily continue to break upon us—one subject important to many and perhaps interesting to all, seems to be partially overlooked, and to this subject I would respectfully call the attention of some of your experienced correspondents. It is a question nearly connected with the *application* of lime, and one equally worthy of consideration. This plain question is simply *how to get it?*

Inexhaustible quantities of limestone abound in this vicinity, yet so supine have the farmers in this region hitherto been, that this invaluable mine of agricultural wealth, has as yet lain comparatively dormant. But now the spirit of improvement is abroad, and the question so lately under discussion, whether a given quantity of lime was or was not more valuable to the farmer than the same bulk of *sand*, has been dropped, with other absurdities, and is now dead and buried.* The farmers have at last awakened from their long sleep, and wonder at their recent delusion. A spirit of rivalry is excited, and a just sense of the importance of the subject awakened, which henceforth shall sleep no more.

Many enterprising farmers have purchased lots of limestone land, and erected limekilns on their premises. Others contemplate following the worthy example, but are deterred from want of experience in constructing kilns, burning limestone, &c.

This being the case, I would institute, through the columns of the Cabinet, the following inquiries:—

1. Is it cheaper for the farmer to quarry limestone and burn it on his premises, or to purchase lime at 16 cts. per bushel, taking the difference of expense in hauling stone and lime into consideration?

2d. Which is considered the best species of limestone for land—the white coarse grained or alum, the dark blue, or dark grey?

3d. What is the best method of constructing a kiln? The proper height? respective diameter of the bottom, bulge, and top?—height of the benches? form of the eye, wing, walls, &c?

4th. What is the most approved manner of turning the arch and filling the kiln?

5th. What is the quantity of fuel necessary to be consumed in burning 100 bushels of lime, and the most economical mode of using wood and coal?

If the above queries elicit a reply from some of your able correspondents versed in the subject, I shall deem myself richly repaid for my labor. E. P.

Triadelphia, Montg'y co. Md., Oct. 8, 1838.

* Incredible as it may appear to some of the readers of the Cabinet, this absurd idea has been but recently eradicated from the creed of some of the *old school* in this neighborhood.

For the Farmers' Cabinet.

Cash Book.

A little care prevents much cost and trouble.

It is a very easy and simple affair to keep a cash book, and yet how very few farmers do it. Any person who can write can keep a book of this description, and many advantages accrue from it. On one page of your cash book set down every thing sold, and the sum received for it. On the other side put down all your outgoings or expenditures; and when it is begun, if the amount of cash on hand is put at the top of the column of receipts, at any time by adding up the two pages, and taking the difference of them, will show the balance of cash you should have in hand; and if there is any disagreement, there must be some error of entry, or there must be "a hole in the purse." A book of this kind accurately kept, would show at the end of the year, or at any other time, the amount of wheat, corn, potatoes, butter, poultry, eggs, or any other articles sold, and the sum received for them. It would do more, it would show all your outlayings for stock, seeds, implements of husbandry, repairs, clothing, tea, coffee, sugar, salt, &c. &c. and also for wages, and would present a very curious and interesting document for family examination at the end of a twelvemonth; and if there should be found to be "a hole in the purse," it would indicate the spot where repairs were most necessary.

A farmer keeping a book of entries of this description, would always know his latitude and longitude, as a captain of a ship does when on the ocean, and he would be less likely to run on to shoals, or get among the *breakers*. As it is not very usual among farmers to take receipts when money is paid on ordinary occasions, and not in very large sums, and as the memories of many people are very frail, such a book of entries as has been referred to, would be of essential service as a record of payment when no other evidence of it existed, and might prevent litigation and trouble in case of the decease of one or both of the parties. On the death of the head of

a family who has kept no regular records of his receipts and payments, much difficulty and sometimes heavy losses have occurred, besides a great deal of trouble and anxiety to those who were obliged to grope in the dark in settling his estate.

It is well known that very many worthy intelligent farmers are careful to preserve an accurate statement of all their worldly concerns, duly arranged in proper form, and such rarely find "a hole in the purse."

But there are many others who would at once plead guilty, or, if they did not, could readily be convicted on responsible testimony, of totally neglecting to keep any intelligible series of entries in a book, of their ingoings and outgoings, and these are the persons who often complain of "a hole in the purse," and yet they are not careful to have it repaired in due season.

ABRAHAM.

For the Farmers' Cabinet.

Treat Domestic Animals kindly and tenderly.

Domestic animals of all kinds, from a horse down to a chicken, should be treated with gentleness and mildness; men or boys who are rash and bad tempered ought not to be permitted to have charge of them or to interfere with their management. Animals that are kept in constant fear of suffering never thrive well, and they often become vicious and intractable by unkind and cruel treatment. Horses are often rendered in a great measure useless by bad management; and cows in consequence of violence and blows, suffer from disease, and are often found to fail in their milk. Hard driving is well known to give cows much suffering, and to produce a falling off in the expected profit from them. Sheep suffer much injury from the same cause; and hogs are often so hurt by rashness that they are rendered of less value. Poultry suffer much also from wanton violence, though it is well known that they do best when they are kept quiet and secluded; this is particularly the case with laying hens, yet how often do we see children and even men and women raise the war whoop among them, when they want to catch one or more for slaughter; sticks, stones, and all kinds of missiles are hurled among them; dogs are had in requisition, and all kinds of warfare are deemed allowable on such occasions, and the noise and turmoil are often raised to such a pitch that the whole neighborhood is disturbed, and all this to capture a few chickens, which might be accomplished in a much shorter time and with much less physical force by a little judicious contrivance, that could be brought into requisition by a child of a dozen years old. After such an alarm and disturbance among the poultry, there will scarcaly be an egg laid for a week. Those who desire to have plenty of eggs for domestic use, or for the market during the approaching season, should attend to having clean, warm, dry and comfortable quarters prepared for their fowls during the inclement weather of winter, and try to have them accommodated with some dry earth, sand, ashes or spent lime for them to dust themselves in, in order that they may be kept free from vermin. All unkind or cruel treatment to domestic animals should be discountenanced and prohibited, for it fosters the worst of passions, and is always productive of loss to the owner.

Whitemarsh, Nov. 1, 1838.

For the Farmers' Cabinet.

Ice Houses.

In my communication upon ice houses in the September number of the Cabinet, I thought it unnecessary to describe what I conceive the best method of building them above ground, because the expense is considerable, and not so good when made, as deep cellars. But as it may be desirable sometimes to erect ice houses in situations where cellars cannot be made to drain the water, I will describe the plan I pursued in building one; which answered the purpose of keeping ice as well, perhaps, as is usual for houses of the kind.

I erected it below a large mill race, floated the ice down and filled it without any expense of carting, and very little labor in any way. I varied from the usual plan of building, in the following manner. Instead of a double frame, I made it single, but had the timber for the sides sawed 12 inches wide and two inches thick, resembling long joice; these were tenented into the sills and plates, which were of ordinary size; and then the building was boarded inside and out, and the middle filled in with tan well pounded down; no braces were put in the house, as they prevent the tan from settling evenly as it decomposes, and leave vacancies for the air. The house was put upon a wall about 12 or 15 inches from the ground. upon which rested very strong joice that supported a rough floor laid with two inch plank, which was covered over about one foot deep with tan well trampled and made smooth, upon which the ice rested.

The house was roofed in the usual way, and strong joice put upon the plates. When the house was filled with ice, a loose floor was laid upon those joice, and a good covering of tan over the floor, which completed the work.

SUBSCRIBER.

Agriculture is the most ennobling of all pursuits. The lord of the soil is a freeman in truth.

AN IMPROVED DRILL,

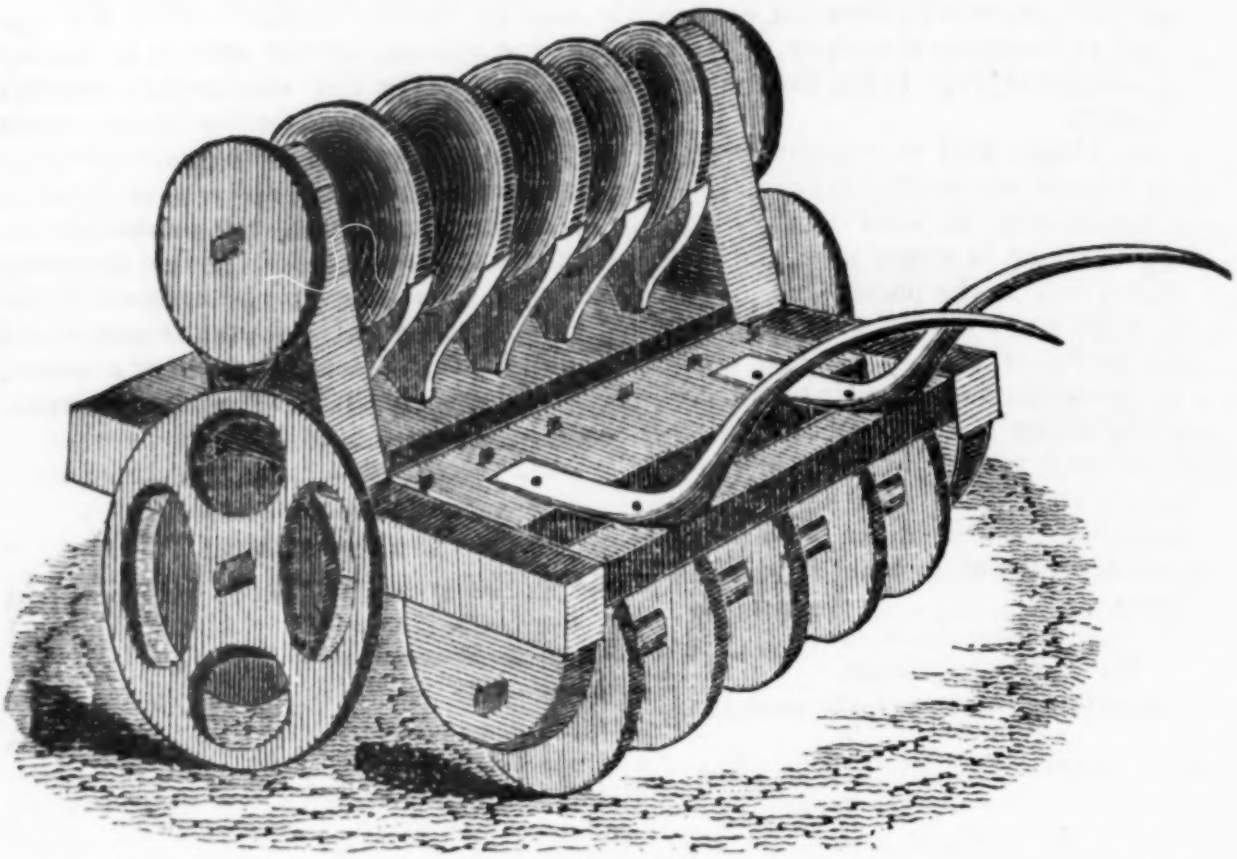

Fig. 23.

In very general use in the sugar districts of France, by which is sown seeds of every size, from the poppy to the horse bean. It is of simple construction, not easily put out of order, and performs to admiration. It drills two, three, or five rows, as might be desired. The rolling by means of wheels is to me a novel invention, and most effective; the pressure can be increased or diminished at will, by a weight laid across the frame above the wheels.

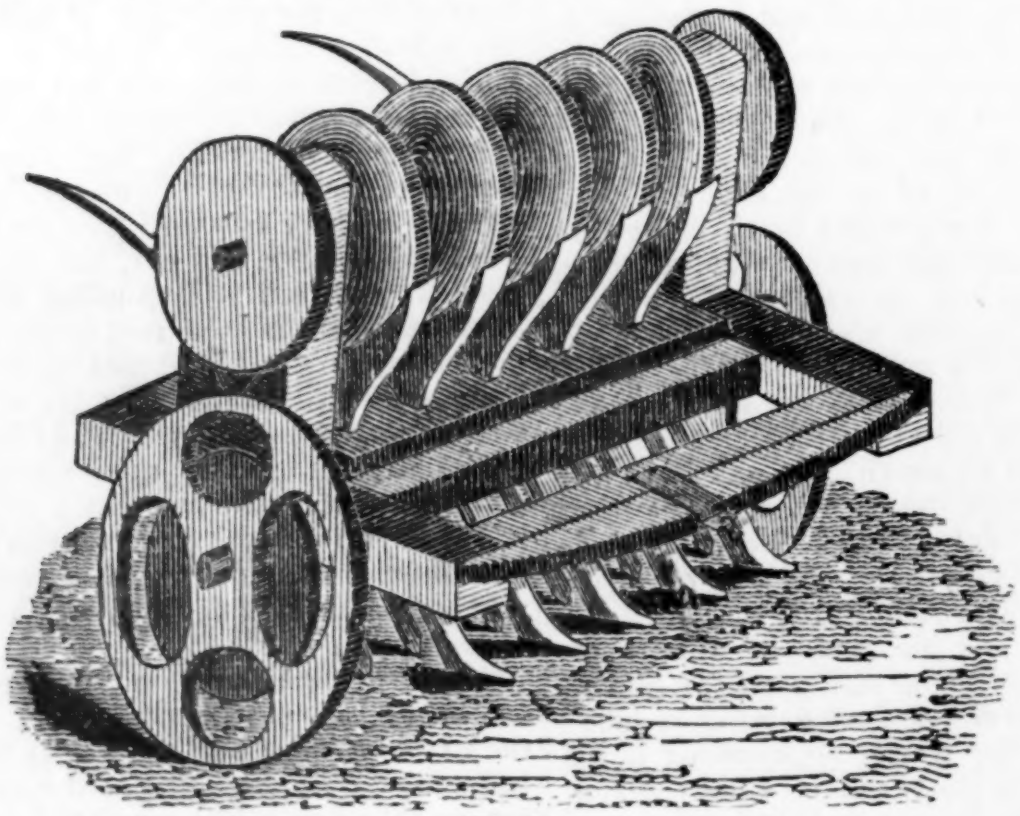

Fig. 24.

When two or three rows only are sown, two or three of the wheels are removed, and no more used than there are rows to be rolled. 1, 2, 3, 4, 5, are the seed boxes, made generally of stout tin, with oblong or oval holes on their edge, these are partially closed by tin slides, so as to suit the seed which is to be sown or drilled; and if the seed is to be dropped at larger distances, every alternate hole is totally closed. This drill works equally well

on the ascent, or descent, or sideland, as upon the level. The iron tines, or teeth with duck feet, are hollow, and the tin cups placed above them deliver the seeds into them, and they are thus conducted exactly into the drills or channels made by the tines, so as not to be affected by the winds or other accidents. These tines are raised or lowered so as to go deeper or shallower, by means of small screw bolts, and are set and regulated with the greatest ease. The harrow also works well; so that in this small space is contained a drill, a seed dropper, a harrow and a roller, united.

By this drill, with two horses and two men, nineteen acres a day are sown, harrowed, and rolled! One man and horse commence work at four o'clock in the morning, and continue until eight; a second man and horse then come on and work until twelve; when the first man and horse return and work until four, and then the second man and horse come on and work until eight. This order is always observed during the seed season. The work for the horse is not laborious, but the strongest and most active horses on the farm are chosen for this purpose, for if the horse be weak and slow, the drilling will not be straight.

J. P.

Philad. Oct. 25, 1838.

For the Farmers' Cabinet.

Potatoes.

It has been remarked this season by some farmers that potatoes on a northern exposure have done much better than those exposed to the south. It has been a very hot and dry summer, at least the latter part of it, and this circumstance may have had an influence to produce such a result; but some are of the opinion that they always do better on a northern aspect. It would be well to have more observations made on this subject, and if the remark is verified, advantage might be taken of it, perhaps to some profit. It is well known that potatoes do much better and are more productive in the northern than in the middle states, and that in the south they don't answer to cultivate to any extent. This shows that climate has much to do with their productiveness and value. In Ireland, also, where the summers are much cooler than in this country; they are represented as producing very abundantly. It is also said that in the mountainous districts of our country, where the atmosphere is always cooler than in the more level districts, they are produced in great perfection. These hints are thrown out to call attention to the subject, that we may accumulate facts for future use on this point.

AGRICOLA.

To the Editor of the Farmers' Cabinet.

Live Fences, &c.

SIR,—Although our cultivated lands generally present to the traveler a high degree of fertility, and most luxuriant crops, yet the appearance of our farms is rendered uncouth and rude by the unsightly fences which are in common use, and which are at the best but a very imperfect barrier to the incursions of trespassers, while they are a source of constant trouble and expense to the farmer. The general introduction of live fences would certainly be a most desirable improvement, giving as they do a beauty and refinement to the landscape, and at the same time forming a fence impenetrable to man or beast. Comparatively few American farmers have seen any specimens of this mode of enclosure, and but few have any idea of the manner of forming a hedge. An extended dissemination of the necessary information on this important branch of agricultural economy amongst the farmers of the older settlements would, doubtless, soon have a practical effect. A small corner of the land reserved for rail timber, would suffice to raise enough of quick to plant the hedges. And the additional extent of tillable land, the neat and beautiful appearance of the fields, deliverance from the onerous expense and labor of patching and renewing dilapidated fences, and enjoyment of the comfort and ease which cannot be felt by those who have insecure fences, will be a satisfactory reward for the little extra trouble which attends the cultivation of the hedge.

The most suitable plant for hedges is that which is of dense growth, well armed with thorns, tenacious of life, adapted to a diversity of soils, and of as rapid growth as is consistent with its other qualifications. The ground for the fence should be well cultivated and somewhat raised. The young sets are planted in a double row, about a foot apart in each row, so as to form a zig-zag. When they are about half an inch in diameter, they are sometimes cut off near the ground, and the sprouts left to grow up; this makes a thicker hedge, with fewer plants. But a more expeditious mode is to allow the plants to attain the height of eight or ten feet, being about one inch thick, and then to plash them; an operation which is performed in the winter by cutting off some of the stock at the height of five or six feet, so as to have a row of stakes on each side two or three feet apart; or sharpened stakes may be substituted for the living ones, but they are not so good. The remaining branches are then thinned out and cut half off by a sloping cut at the ground, so that they will incline to an angle of 45°. They must not be laid too closely so as to choke their growth, and yet especial

care must be had not to leave holes, particularly near the bottom. There is no farther trouble except an occasional trimming.

The white thorn is in general use for hedges in England, but it is certainly not so well suited to this climate. The Osage Orange is said by those acquainted with it to be in every respect well adapted; but its propagation is said to be attended with difficulty. If some person acquainted with this plant, would contribute to your interesting sheet directions for propagating it, and cultivating it in fences, (if different from the mode practised with the white thorn,) it would be of great value and interest to the agricultural community, and an especial obligation to those of your subscribers who make the request.

Respectfully, yours,

MUNITOR.

Centre county, Sept'r. 22, 1838.

To the Editor of the Farmers' Cabinet:

Sowing Parsneps, Beets, &c.

The circumstance of having sown parsnep seed on Christmas day, and this sowing having produced an excellent crop, both in respect to quality and quantity, and a friend informing me that in the past summer (1838) he had excellent sugar beets from seed that had been shaken from some seed stems in 1837, consequently seed had been in the earth through the winter of 1837–8, have given rise to a train of speculation, that led to the following conclusions, that I request you will lay before the readers of the Cabinet for their consideration, and most earnestly are they requested to submit the theory to the ordeal of experiment. That parsnep seed will remain in the earth all winter uninjured, and vegetate freely in the spring is matter of fact, and what has been told of the beets, goes to show they possess the same property. Onion seed belongs to a hardy family, carrots, parsley and some other seeds we have reason to believe possess these properties, and are very tenacious of life.

Taking these circumstances into consideration, it brings us to the conclusion, that sowing of parsneps, beets, onions, and some other kinds of garden and field seeds in the fall, and so near to the freezing season, that there is no probability of their vegetating, so as to expose their tender plants to injury by frost; on the contrary, that the seeds will remain in the ground ready to shoot out with the earliest influence of spring, which will insure to them the beneficial effects of that season, whereby they will have established strong roots, before the intense heat, and the drought of summer has arrived, to stunt their growth. Therefore it is reasonable to presume, that these plants will progress to great perfection; but should this in some cases not be the result, the practice will secure an early crop.

But there is another important consideration that recommends the practice, where it shall be found to answer;—October, November, and December are periods in which the farmer, gardener, and his laborers, are not very much pressed with business, and in as much as they can plant and sow their crops during these months, they will lessen the press of business that has to be performed in spring; they will have more leisure to do the spring seeding, and also to do more of it.

Taking all things into consideration, the experiment is worthy of trial, from Maine to Florida; it may not in full suit every where, and yet, in part, answer in all places.

As yet, we have very limited specific facts as to the acclimating of plants. In the north, the onion is a biennial plant; it is ready for market one season, and matures its seed the second—whereas, at Philadelphia, the bulbs are not ready for market until the second year, and produce seed the third. These habits of the onion merit attention, and when carefully considered and compared with the characters of other plants, may lead to new and happy discoveries.

I. R.

For the Farmers' Cabinet.

A Barrow Hoe,

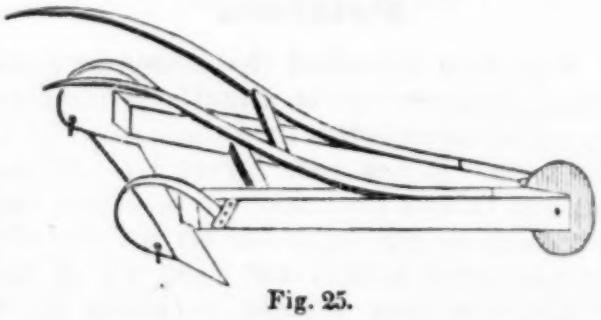

Fig. 25.

For cleaning between the rows of drilled crops, used for this purpose in the sugar districts in France. The knife or cutting part is thin, and made of well tempered steel, and when it is much worn, it is unscrewed and turned surface downward, and is thus made to *sharpen itself.* It is a very effective instrument, as the pressure on the handles gives the power to cut nearly as deep as a skim plough. It is used for cleaning gravel walks also, or hoeing surfaces that are too hard to be operated upon by the hand hoe.

J. P.

A charitable man censureth not his neighbor; he believeth not the tales of envy and malevolence, neither repeateth he their slanders. He assisteth the poor in their trouble; he rejoiceth in furthering the prosperity of all men.

For the Farmers' Cabinet.

Lime—Its Application, &c.

On looking over the 43d No. of the Farmers' Cabinet, I find some information is elicited from me relative to the application of lime and manure, &c. "How the lime is applied? the quantity per acre? the quality of the lime? and the nature and constitution of the soil to which it was applied."

In reply to the above queries, I may state that (with one exception) for the purpose of *improving* poor land so as to produce good crops, with as little delay as possible, I have thought it best to combine the lime and manure, by applying both for the same crop; that is, in preparing for a crop of corn I should put on about 25 ox cart loads of barn yard manure to the acre, spread it evenly and plough *late* in the fall, harrowing it well before winter sets in. In the spring I spread on sixty bushels of lime to the acre, again harrowing until the ground is in good order for planting, it is then struck out lightly for planting, so as not to turn up the sward, nor is it my wish in the cultivation of the corn crop through the summer to plough so deep as to disturb the manure, preferring that it should decompose without exposure to the sun and rain. By this means it is (I believe) in a better prepared state for the wheat crop that follows. After the corn crop is taken off, I have the ground ploughed deep so as to mix the manure well with the earth, sow broadcast and harrow in. By this course I have raised from sixty to seventy bushels of corn per acre the first year, and from twenty-five to thirty bushels of wheat, following the corn crop, and from land that would not previously produce oats worth cutting. I prefer ploughing in the fall as above stated, under the impression that the eggs of insects previously deposited are in a measure destroyed by being exposed to wet and frosts of winter. By adopting this course I have never had my corn injured with the cut worm—some farmers are opposed to ploughing in the fall, because (as they say) the ground becomes grassy and difficult afterwards to keep under—this I know by experience is the fact, and the reason is a want of proper attention on the part of the farmer—if he will harrow his ground *well* directly after it is ploughed, and again in the spring, he will not be troubled with grass—at least I find it so. In harrowing in the spring, I place a weight on so as to loosen the ground to the sward, or as deep as can conveniently be done; the ground by this means is placed in good order not only for covering the corn, but gives room for the easy spreading of its fibrous roots while young and tender, and of course comes up better and stronger than when the ground is not well pulverized.

In the exception alluded to above, the lime was applied by itself, not having any manure to spare at that time. It was a lot of eleven acres of poor worn out land, and not wishing that it should lie useless, I concluded to try the effects of lime by itself—for this purpose I had the ground prepared and ploughed in the spring, and understanding that poor land would not bear much lime, I determined to ascertain that fact for my own satisfaction. I commenced putting on at the rate of one hundred bushels of fresh valley lime per acre, gradually reducing; finished at sixty bushels—the lime was slacked, and spread immediately and sown with oats, harrowing it in. The crop was unusually large, and had to be cut with the naked scythe, being all laid, (or lodged.)—Where the most lime was put the crop was best, and so continued to produce in succeeding crops for many years afterwards.

The lime used in the *improvement* of my farm was from the Great Valley (in Pennsylvania) near Downingtown, which is considered of good quality for land Of late years I have used oyster shell and Schuylkill lime—the former I have had burnt on the farm, having a kiln for that purpose. The refuse wood only is used, say at the rate of 1½ cords for 600 bushels of lime—the cost when burned does not exceed eight cents per bushel—the quantity per acre, from 150 to 200 bushels, the latter quantity I consider fully equal to 100 bushels of stone lime, and the cost less, having to give with us 25 cts. for the Valley lime. Schuylkill can be had for 17 cts. burnt with coal, or 20 cts. burnt with wood, but it is generally too much slacked by the time it reaches us, and in some instances (on being analyzed) is found to contain too great a proportion of magnesia. It would be well for our agricultural societies to turn their attention to this subject, and publish the result of their labors.

The farm on which I reside is of primitive formation—situation high—the soil naturally poor, composed of clay, sand and gravel, varying as to mixture more or less in the different fields. EDWARD TATNALL.

Brandywine, 10th mo., 9th, 1830.

I believe one reason why such numerous instances of erudition occur among the lower ranks is, that with the same powers of mind, the poor student is limited to a narrow circle for indulging his passion for books, and must necessarily make himself master of the few he possesses ere he can acquire more.

Accurate knowledge is the best, and indeed the only true foundation of true eloquence. Lord Chesterfield seems to think otherwise; but the eloquence he recommends is like his favorite system of manners, not solid, but showy and superficial.

The Marl Indicator.

From the Virginia Farmers' Register, edited by Edmund Ruffin, Esq.

It has been long and generally believed among the marling farmers of King William county, and the adjoining country, that the growth of a certain plant, in running water, indicates, with absolute certainty, the presence of marl, or beds of fossil shells, some where higher up the stream. The great value of any such indication, to those who are searching

Fig. 26.

for marl, is obvious. We were informed of the peculiar rule of location of this plant several years ago, by our friend and correspondent, Dr. William B. Westmore, then a resident of King William, and, at that time, requested such particular information as would enable

us to identify the plant, and, by publishing the description, to furnish all the readers of the Farmers' Register, the means to avail of its use, in showing the before hidden presence of marl on their lands, or in their neighborhood. Dr. Westmore caused a correct colored drawing to be made of the plant, by a good artist who happened to be at his house; and from the drawing we have had engraved the representation which accompanies this article; and which, with our own description may enable persons without botanical knowledge, to identify the plant. But to those who possess any thing of that knowledge, (to which we have no pretension,) a much surer means of identification is offered in the following report of the botanical character of the plant, which was furnished at our request by a correspondent, who is much better informed on the subject, and to whom the growing plant was exhibited. His report was as follows:

"I carefully examined the plant you pointed out to me, when here, as indicating the presence of marl in the earth, or as growing only in streams supplied with calcareous matter. Though the flowers are very small, the botanical character is obvious, and easily determined. The plant belongs to the second class and first order of the artificial system, (*diandria monogynia,*) and to the genus *Veronica* of that order. Loudon describes 84 species of this genus, only one of which (*Veronica Virginica*, with a variety, *Incarnata,*) is American. This plant does not agree with any of the numerous species described by Loudon, and I very much doubt whether it is described by any botanist. I would, therefore, be inclined to consider it a new and important species. Its botanical description is—root fibrous, stem smooth, leaves opposite, amplexicaul, lanceolate, slightly serrate, flowers racemose, axillary, calix four-toothed, corolla light blue, entire base; lip four parted, capsule two celled. Should this be (as I think there is every probability) an entire new species of *Veronica*, would you permit me the liberty of suggesting a specific name—*Veronica Ruffinia?* If its presence is a sure indication of marl, it is a highly important plant, and your name is almost identified with marl."

We beg leave to decline the unmerited honor above proposed, as we have no claim to the discovery—and but only that of having appreciated the facts, as soon as they were heard of, and now of making them public. We should think the name of *Westmorea* more appropriate: but our friend Westmore also waives all claim to the discovery, and says, that he does not know who first noticed the connexion of the plant with marl. And if, contrary to the present supposition, the plant should in fact have been long on the catalogues of botanists, it will not the less deserve to be considered, for its peculiar quality now just brought to light, as a new and important agricultural discovery. We prefer for is name the descriptive one of the "Marl Indicator."

But we have further evidence of this being in truth a new species, in the opinion of our friend and correspondent, Gideon B. Smith, of Baltimore, to whom we sent the drawing to have it engraved, accompanied by a statement of the peculiar value of the plant, and a copy of the foregoing botanical description. His answer says—

"I cannot determine the botanical character of the plant from the drawing, but it certainly appears to be a Veronica. The description of the plant and the drawing agree perfectly, so far as I can follow the latter—the characters of the corolla, calyx and capsule not being distinct in the drawing. [Owing to their small size.] The plant is new to me; it is not described by Loudon, nor, so far as I can find, by Elliott, nor any other botanist to whose works I have access.

"It will be a curious and valuable discovery for the agricultural interest, should it prove to be in fact an indication of the presence of calcareous matter, and I shall certainly bear it in mind in all my botanical rambles."

We readily found this plant growing in several of the rivulets flowing through different beds of fossil shells, or marl, on our farm. For the fact that it is yet to be found in none other than such streams, we have as yet to rely on the information of others; and on the certainty of its absence as well as its presence agreeing with the absence and presence of marl, obviously depends the value of the "indicator."

The plant is an evergreen; it grows only in shallow water. The stalk is seldom more than a foot high; though we found some 2½ feet. It is so succulent and tender, that it droops and withers very quickly after being pulled up, and left dry; but when immediately placed with the roots in a bottle of water, it continued to live, and to throw out successive flowers for several weeks. It was in flower in May, and had not ceased to flower in the beginning of September. The flowers are very small, of a pale blue, or nearly of a lilac color, and appear in small clusters, or strings.

We have taken much trouble and incurred some expense, to enable our readers to identify this plant. It is hoped that many will search for it, and test its alleged peculiarity of location; and if observation should serve to disprove that peculiar character, it is further hoped that such observation and facts will be communicated for publication. To correct erroneous opinions, and mistaken facts, is as useful and as necessary to agricultural know-

ledge and improvement, as to announce new and undoubtedly true opinions and facts.

As no calcareous earth exists in the tide-water region of the southern states, except the fossil shell deposite, or marl, as commonly termed, of course the growth of this plant, when found any where in that region, will always indicate that form of calcareous earth only. But if it grows among the mountains, and in more northern as well as more elevated lands, it will probably be found in all limestone streams.

We give the above article as a matter of interest to our readers. The plant may or may not indicate the presence of marl. We handed the engraving to one of the best botanists in the country—a gentleman who has made the science his particular study for a number of years—and he stated without hesitation that the plant was not new, that it was to be found in both Europe and America, and that by reference to Dr. Darlington's Flora Cestrica, we would find the following description of the "Veronica Anagallis."

"Stem erect; leaves amplexicaul, lanceolate, acute, denticulate; racemes opposite. *Beck, Bot. p.* 261.

Vulgo—Water Speedwell. Long-leaved Brooklime.

Root perennial; with verticils of numerous long capillary radicles at the lower nodes of the stem. *Stem* 12 to 18 inches high, rather coarse and fleshy, sometimes with a roughish pubescence. *Leaves* smooth, closely sessile and embracing the stem, narrow-lanceolate, 2 to 3 inches long, and tapering gradually to a point, sparingly denticulate, often nearly entire *Racemes* mostly opposite, on stout succulent peduncles; *bracts* linear-lanceolate, as long as the pedicels. *Corolla* pale blue, with purple stripes. *Capsule* tumid.

Hab. Muddy margins of rivulets: Great Valley, [Chester co. Pa., limestone region;] rare. *Fl.* June. *Fr.* August.

Obs. This is undoubtedly the true V. Anagallis: as I have verified it by comparison with authentic European specimens. When my catalogue was published, I had never seen the plant; and mistook for it, a variety of V. Beccabunga,—which however is quite distinct. This species occurs at Downingtown, and Brooke's Mill; where it was detected, in 1833, by my indefatigable friend, Mr. Joshua Hoopes. I have also received Kentucky specimens from Professor Short."

We are informed that the same plant is not uncommon in the granite regions of New Hampshire, and we are assured by a friend on whom we rely, that it has been found on the Rocky Mountains. These are mere opinions formed from an examination of the *engraving*, and as it is extremely difficult, if not impossible to determine the true botanical character of a plant from an engraving, these opinions may be changed on an examination of the plant itself. If the Editor of the Register will favor us with a specimen of the plant. (*Marl Indicator*) we will preserve it for the inspection of our friends generally, who doubtless feel an interest in the matter, and by a comparison of the plants, we shall be enabled to test the correctness of the opinions given above. Botanists also are anxious to see a specimen.

Potatoe Culture.

At the request of several of our subscribers, we republish the following communication from the American Farmer. Mr. Massey assures us that his experience of more than twenty years confirms the opinions he advanced in the following article. The letter was addressed to that sterling friend of agriculture, J. S. Skinner, Esq. of Baltimore.—Mr. Massey says, "having read in the American Farmer several communications on raising potatoes, and none of them corresponding with my method, and convinced from seven years experience of the superior crops I have uniformly raised, has induced me to give you my mode of managing the crop.

I always plough my stalk ground as deep as possible in February for my potatoe patch; in May I harrow the patch and roll it until it is quite smooth; it is then ready for planting (which I do immediately after planting the corn.) I make drills by a bout with a large plough, three at a time only, then drag a log four feet long and 13 inches in diameter with a large chain twisted in a spiral form round the log up and down each drill, the log is square at the end, which throws the mould on each side of the drill, the chain rubbing the mould as fine as the covering of a hot bed; by the time these three drills are ready the cart arrives with the dung, which is thrown in the drills and broke and spread evenly in the drills, 'the seed (which has been cut two or three weeks and plaster sprinkled on them when cut,') is dropped nine inches apart, and trod by the boy who drops them into the dung; as soon as the three rows are ready, the plough covers the seed and dung with the fine mould the log threw on each side of the drill; the whole patch is thus planted: I have put in an acre in a day with two carts, a loader, one plough, three men and a boy to drop: I pick the best shaped and largest potatoes for seed, and cut them in three or four pieces. I have tried whole potatoes, and found no advantage in any respect. I have never measured my whole crop, but from the cart loads, I estimate my average crops 450 bushels per acre; I once planted five bushels of the Nova Scotia blue nose (the first I ever tried of that kind) and had 260 bushels of picked potatoes, and about five

bushels of small, since I have planted no other kind for my late crop, being convinced they are the most prolific of eight varieties I tried for three years; the after culture is very similar to earthing and blanching celery, and on this depends the crop, as much as a corn crop would in a dry hot summer. I cannot give you a clear idea without the annexed sketch.

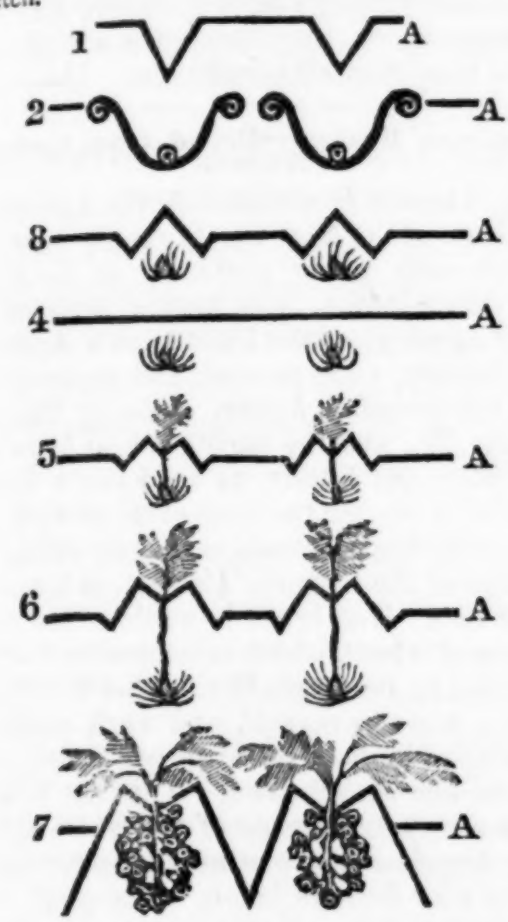

Fig. 27.

1. Drills made with the plough.
2. Log and chain, dung and seed.
3. Covered.
4. Harrowed level, after the first rain and before the plants are up.
5. First ploughing.
6. Second ploughing.
7. Third ploughing.

A is the surface of the field before making the drills.

The drills are four feet from centre to centre; after the seed are up, as fig. 5, I run a triangle harrow between each drill and throw a very light furrow to the plant with a small plough. Two weeks after harrow again and throw a heavier furrow to the plant as fig. 6, and before the tops get too large harrow again; with a large plough with a thin piece of board fixed to the extremity of the mould board finish the work as fig. 7. Fifteen large ox cart loads of manure is all I use for one acre, and fifteen bushels of seed cut in three or four pieces. I have observed the growth, and find the potatoes arranged as fig. 7. Having dug several hills with my fingers, beginning at the side, and in two seasons have had the potatoes bursting the ground at the surface when the lowest was 11 inches underneath; after the first frost, I mow the vines and haul them off to my compost heap; and when the ground is dry take up the crop, by ploughing a furrow from each side of the row, and turning the middle over; my expense of the whole crop, from hauling the manure, till the potatoes are in the cellar, is 15 dollars per acre, and have had 265 bushels on ¼ of an acre—to illustrate the advantage of often stirring the ground during the growth of esculents in a dry season, I planted in 1816 two cabbage beside each other, they were from the same seed bed, and each manured with an equal weight of old hot bed dung—one plant I hoed every evening, the other when the principal crop was hoed; in November they were weighed, one 24 lbs. the other 43 lbs., of the flat Dutch kinds: other experiments prove that often working or stirring the ground, will double any crop in a dry season.

THOMAS MASSEY.

Roseville, Delaware.

For the Farmers' Cabinet.

Ploughing.

I see in the second number of Vol. III. of the Farmers' Cabinet, page 69, under the head "Farmers' work for October," some observations on ploughing. Now I think they must have been made by one who is entirely ignorant of the practical part of ploughing. In the first place I would ask "Farmer and Gardener" what force he applies to his plough to turn a furrow of 7 inches by 9 inches, and also, what kind of plough he uses; for I cannot conceive by our ordinary means that we would be able to perform it more than 7 inches wide by 5 inches in depth; and a more usual depth is about 4 inches, and that generally turns up the clay, on poor ground, to receive the seed, and I am inclined to think that one reason why we raise such light crops. I will grant that a deep soil is better than a shallow one, but unless we are able to make a seven inch soil good, we had better be content with three inches. Experience proves to my mind, that there is something more required than deep ploughing to make it so. Neither is it a difficult matter to make the soil good, provided you have the means beforehand.

Farming upon paper is readily done—so easy that many persons suppose it as practicable on land. I can tell how ground ought to be prepared for a crop of corn, supposing the ploughing recommended was preparatory to corn, (if any one can tell how the next spring is to open, I will say whether to plough in the fall or not) if an open and dry spring, the fall previous manure on sod, sayseven good four horse loads of stable manure to the acre. Many persons may think this a light coat, but

I can tell them it will be heavy enough when they count cost. When I speak of loads, I do not mean such as farmers haul from their yards, but such as are generally brought from the city, one foot or more above the side rails, well trodden, and then the acre of ground will be well manured, and exclusive of the labor, will cost $28. Then after this much plough your ground well four inches deep, leave it in this state exposed to the winter—and in the spring, as soon as the ground is dry (not before) plough again shallow, then put 50 bushels of lime to the acre as hot as you can. Harrow well, and plough your corn at the proper season, and not neglect it after—and if you do not have a crop it will not be your fault. But, if the spring is to open very wet, I would all this work be done then, and not in the fall.

All I have said is very soon done on paper, and without much cost. But practically, it takes much hard work, and can not or will not be done, for the very reason that we, as farmers in general cannot afford it.(?)

Penn. Farmer.

Phila. Co., Septr. 27, 1838.

For the Farmers' Cabinet.

A Hint to our New Jersey Friends.

The necessity of keeping the different varieties of the same species, widely separated, is clearly manifested by the mixed state in which the melons are brought to the Philadelphia market; for, with the exception of the last variety of watermelons introduced, (the Spanish, and these only with two or three individuals, who have kept them true and increased their size,) I know of none which have not very much degenerated. Of the cantaloupe I cannot recollect much, but have heard them spoken of in high terms of praise; it cannot now be recognized, having probably lost its distinctive characteristic, partly by admixture with some varieties then cultivated, and since by blending with the nutmeg melon.—The citron variety is of later date. It was, when first introduced, about the size of a fully grown Holland pippin, deeply lobed, aromatic green, fresh, very small cavity, a smooth skin, and decidedly the very best variety of them all; this was soon blended with the larger kinds, by some, through carelessness, and by others, to increase the size; so that it is difficult now to find one, that approaches to the original, either in size or quality.

The long striped watermelon has already suffered much, and unless our truckmen are more careful to keep a new variety called the citron (not the citron nutmeg, but a spherical, hard, striped, good-for-nothing thing, used for preserving) from the neighborhood of their patches, in a very short time, both this, and the Spanish sort will be of little value. The past season, watermelons might be seen in the market, mixed in various degrees; indeed, I was present at the opening of one, so much impregnated with this vile thing, as to require a considerable effort with a sharp knife to divide it. I would advise that it be kept at a full gun shot distance, or discarded altogether. And as there has been lately introduced a very fine variety of Pumpkin (the citron, or Valparaiso squash) I hope the above hint respecting melons, may be a sufficient protection to this, from all interlopers. H——.

Premium Butter—Bread from Spring Wheat.

Mr. Libby—*Dear Sir*,—At the Agricultural dinner of the New Castle county Agricultural Society, given yesterday at the City Hall, Wilmington, you, among some other of the members of the Philadelphia Agricultural Society, were present, and appeared to enjoy the *premium butter*, made by Thomas Massey, Jr., and the *spring wheat bread*; I have taken the liberty to send you a small parcel of each for the inspection of such of your agricultural friends as may be calling at the office of the Farmers' Cabinet, in the next day or two. The bread is made of the two samples of wheat, which accompanies it—the one raised by Benjamin Webb, near Wilmington, the other by myself, and each yielding in the neighborhood of seventeen bushels per acre, for one bushel sown. The flour makes, (as far as my experience of two years goes) *brown bread*—of its sweetness and other qualities, let your farmers judge. The great heat and drought of the past season, caused much injury to our winter and spring wheat, whilst in the milch—the average weight of the latter (from 56 to 57 lbs. per bushel) will compare without disparagement with the winter grain, much of that on our best lands not yielding beyond 54 to 56 lbs. Although I should never recommend a farmer giving up his winter wheat for this spring variety, altogether, as some have done; yet, as a stranger among us, under many unfavorable circumstances, it deserves kind treatment—acclimation—to be tried in small quantities—and the seed to be *genuine*, before it is condemned and pushed aside, with the many *humbugs* of the day.

Yours, truly,

James W. Thomson.

Wilmington, Del., Oct. 25, 1838.

With the above note from our worthy correspondent, Dr. Thomson, we received the bread and butter. The *butter* was very superior, and merited, we think, the premium awarded it. The *spring wheat bread*, also was excellent, but rather dark. The grain from which it was made, evidently of a

good variety. A number of our most intelligent farmers were well pleased with it; and agreed with the Doctor, that it shall not be condemned, as far as they are concerned, without a fair trial. We feel ourselves under great obligations to our correspondent for his attention.

THE FARMERS' CABINET.
NOVEMBER 15, 1838.

Agricultural Exhibitions.

PHILADELPHIA SOCIETY.

The Philadelphia Society for Promoting Agriculture, had a Show and Sale on the 5th and 6th inst. The numbers of live stock exhibited was greater than our liveliest hopes anticipated, and the appearance of the animals such as conduced greatly to the credit of our farmers and graziers.*

The display of fine horses and colts, demonstrates that this noble and useful animal is receiving proper attention in our neighborhood. Of sheep, the number was also large, consisting of Leicesters, Southdowns, and crosses of these favorite breeds, besides other kinds that looked well. But the greatest and most attractive display was afforded by the numerous bulls, cows, calves, and heifers, in variety, and of quality, that excited our surprise. There were the high bred and beautiful Durhams, the pride of stock farmers, with crosses of Devon, Holstein, and native breeds, that must have given the judges a difficult task to decide on their various merits.

We shall not attempt to particularize, as our next number will, we hope, contain the Society's account of the exhibition, with the reports of the judges.

There was but a small collection of Agricultural Implements, and very few productions of the farm other than live stock, and we think the Society would do well to grace their exhibitions by many articles which on this occasion were overlooked. This first effort having passed off remarkably well, will, we trust, lead to regular annual exhibitions and fairs.

* See Report of Sales in a subsequent column.

We copy the following from the Delaware Gazette. It shows that the farmers of New Castle county are awake: the best results may be anticipated, from the liberal manner in which the institution is sustained. The right spirit is abroad.

PROCEEDINGS of the CATTLE SHOW,

Held at Wilmington, October 24th.

The annual Cattle Show of the New Castle County Agricultural Society was held at Wilmington, on Wednesday, 24th ult., and notwithstanding the rain, which fell throughout the day, there was a good display of imported, as well as domestic animals; as also horses, swine, and sheep; and had the day been at all favorable, it is understood that there would have been at least two-thirds more stock and farmers in attendance, so as to have rendered this exhibition by far the largest and most interesting of any ever held in the State. The decided interest manifested in behalf of this Society, its increasing numbers, and its acknowledged usefulness, speak well for its past exertions, and augur the best results for the future. After the exhibition of the day closed, the judges met and awarded the following premiums:

To John Baynes, for the best Bull from three to five years old,		$15 00
" Philip Reybold, for Cow 'Betts,'		10 00
" do.	Heifer 'Fanny,'	8 00
" Samuel Canby, for best Heifer Calf,		5 00
" do.	for best bull calf,	8 00
" Dr. J. W. Thomson, for "Camilla," the best Brood Mare, bred by Col. Vanmeter, Va.		5 00
" Micajah Churchman, for the best Yearling Colt, got by Ney,		5 00
" Philip Reybold, for the best Ram, of the Lincolnshire breed,		8 00
" do.	for the best pen of Ewes, of the same breed,	8 00
" Thomas Massey, Jr., for the best Sow and Pigs,		5 00
" Ditto for the best Fresh Butter,		4 00

The importing Company's Bull, Maxwell, bred by Mr. Whitaker, England, was the admiration of all present—and though decidedly the finest animal on the ground—yet, by the present rules of the Society, premiums are confined to domestic stock:—(The fine imported Durham cows of Samuel Canby, Esq. came under the exception.)—The committee on horses speak in high terms of Thomas Massey, Jr.'s two fine stallions, viz.: Billy Bell, by Bell, by Bellfounder, (who took the premium last year) and John Randolph, by Rinaldo—the latter a superior horse for carriage and farming purposes. The stud horse, Wm. Penn, owned by James Pyle, they considered as having good proportions and well

adapted to road and farming uses. The pen of yearling Ewes, offered by John Baynes, of the Bakewell breed, the committee on sheep deemed most excellent of the kind.

The several committees also noticed with gratification, a number of other fine animals which were presented, though not coming up to all the requirements of the Society for taking premiums—observe, that there was manifest improvement in all, and that much praise is due to their owners, who are still improving their stock—many of those exhibited by Samuel Canby, Philip Reybold, Eyre and Thomson, Alexander S. Read, John B. Baynes, Thomas Massey, jr., and others, were of this description, and will stand a comparison with the best stock of the country.

At 2 o'clock the Society dined at the City Hall, with a number of citizens and invited guests—among the latter we noticed with much pleasure John S. Skinner, Esq. of Baltimore, late editor of the American Farmer, John Libby, of Philadelphia, proprietor of the Farmers' Cabinet, and Messrs. Thornton, Roberts, Comfort, and others of the Philadelphia Agricultural Society.

Philip Reybold, Esq., President of the Society presided at the dinner, assisted by Messieurs Naudain and Thomson. Letters of regret were read by the Corresponding Secretary from Governor Comegys of Kent, Wm. D. Waples, Esq. of Sussex, Ed. P. Roberts, Esq. editor of the Farmer and Gardener, and others who were unable to attend. The dinner was bountiful in the extreme, and some good speeches were delivered by several of the gentlemen present, on the advantages of Agriculture and Agricultural Societies—the uses of manure—the importance and necessity of education to farmers—the honor of the calling and the profitableness of husbandry, &c. &c.

At 5 o'clock the company adjourned, having first passed a vote of thanks to Brooke T. Turner, of the Bayard Hotel, for the ample and excellent dinner he had provided for the occasion.

We predict the happiest results to our county and state from these annual gatherings of intelligent farmers—their honorable competition to excel each other in the finest breeds of stock and in the best productions of the earth—whether of grain, fruits, vegetables or flowers. The cause of agriculture in our country is evidently *onward*, and the spirit of improvement in the education and requirements of the young farmer are assuredly heightened every year. Would not a *national convention* then of the first agriculturists of every state and county society in the Union, now organized, (to meet in Philadelphia, say the last Wednesday in September, 1839,) be productive of lasting benefit to the farming interests and the consuming classes of the U. States? And would not such a convention bring about in all probability permanent boards of agriculture in all the states—Schools for Agricultural acquirements, depositories for the best seeds and implements of husbandry, and what is quite as important, a personal knowledge to each other of all the distinguished writers and friends of agriculture throughout our land? We throw out the hint and hope to see it acted upon.

Cincinatus.

The suggestion of a *national convention of farmers* is certainly a good one. We most cordially second the motion.

Chester and Delaware County Agricultural Society.

The first exhibition of the Chester and Delaware Agricultural Society, held on Wednesday last, was every thing that had been expected by the society. From the very unusual drought of the past summer, the exhibition was held under great disadvantages; but the experiment has established the practicability and utility of the society beyond a doubt. The collection of cattle, horses, oxen, bulls, cows, &c. was highly respectable, and remarkable for their size, form, and keep: many of them were beautiful animals. The *Devonshire* bull of Mr. Travilla, particularly, attracted great admiration; and also the giant oxen of herculian strength, belonging to Mr. Woodward, as well as the handsome cow recently imported by Mr. Morris. Four hogs, 14 months old, weighing collectively 2200 lbs., attracted great attention as well for their size, as their excellent symmetry and proportions. They were owned by Mr. Ross. The collection of sheep, was also worthy of, and received great attention. Several pens displayed the skill of our best feeders,—Green, Bradly, Cope, Hoopes, and others, both in the size, quality, and beauty of the animals. The exhibition was attended by some of the best horses in the country; noted for their blood and performances. Besides the stock, we observed at the show a number of agricultural implements, ploughs, &c.

The exhibition drew together a great number of farmers from all parts of the counties of Chester and Delaware, who appeared to be universally pleased with the result of the day. They certainly feasted their eyes upon as fine a collection of cattle, sheep and swine as Chester and Delaware ever exhibited—and we hope they may long live to witness the future exhibitions of their most worthy society.

In this hasty notice we have not touched many objects deserving of honorable mention. We have just glanced at the exhibition, and

shall await the official report of the proceedings, which will make their appearance in about three weeks; and the premiums will also be announced.—*W. Chester (Pa.) Vil. Record.*

Eggs and Poultry.

Among all nations, and throughout all grades of society, eggs have been a favorite food. But in all our cities and particularly in winter, they are held at such prices that few families can afford to use them at all; and even those who are in easy circumstances, consider them too expensive for common food.

There is no need of this. Every family or nearly every family, can, with very little trouble, have eggs in plenty during the whole year; and of all the animals domesticated for the use of man, the common dunghill fowl is capable of yielding the greatest possible profit to the owner.

In the month of November, I put apart eleven hens and cock, gave them a small chamber in a wood house, defended from storms, and with an opening to the south.—Their food, water, and lime, were placed on shelves convenient for them, with warm nests and chalk nest-eggs in plenty. These hens continued to lay eggs through the winter.—From these eleven hens I received an average of six eggs daily during the winter; and whenever any of them was disposed to set, viz. as soon as she began to cluck, she was separated from the others by a grated partition, and her apartment darkened; these cluckers were well attended and well fed; they could see and partially associate through their grates with the other fowls, and as soon as any of these prisoners began to sing, she was liberated, and would very soon lay eggs. It is a pleasant recreation to feed and tend a bevy of laying hens; they may be tamed so as to follow the children, and will lay in any box.

Egg shells contain lime, and in winter, when the earth is bound with frost or covered with snow, if lime is not provided for them, they will not lay, or, if they do, the eggs must of necessity be without shells. Old rubbish lime, from old chimneys and old buildings, is proper, and only needs to be broken for them. They will often attempt to swallow pieces of lime plaster as large as walnuts.

I have often heard it said that wheat is the best grain for them, but I doubt it; they will sing over Indian corn with more animation than over any other grain. The singing hen will certainly lay eggs, if she finds all things agreeable to her; but the hen is much of a prude, as watchful as a weasel, and as fastidious as a hypocrite; she must, she will have secrecy and mystery about her nest; all eyes but her own must be averted; follow her or watch her, and she will forsake her nest, and stop laying; she is best pleased with a box covered at top with a backside aperture for light, and a side door by which she can escape unseen.

A farmer may keep an hundred fowls in his barn, may suffer them to trample upon and destroy his mows of wheat and other grain, and still have fewer eggs than the cottager who keeps a single dozen, who provides secret nests, chalk eggs, pounded brick, plenty of Indian corn, lime, water and gravel, for them; and who takes care that his hens are not disturbed about their nests. Three chalk eggs in a nest is better than a single nest egg, and large eggs please them; I have often smiled to see them fondle round and lay into a nest of geese eggs. Pullets will commence laying earlier in life where nests and eggs are plenty, and where other hens are cackling around them.

A dozen dunghill fowls, shut up from any other means of obtaining food, will require something more than a quart of Indian corn a day; I think fifteen bushels a year a fair provision for them. But more or less, let them always have enough by them, and after they have become habituated to find enough, at all times a plenty in their little manger, they take but a few kernels at a time, except just before retiring to roost, when they will take nearly a spoonfull into their crops; but just so sure as their provision comes to them scanted or irregularly, so surely they will raven up a whole crop full at a time, and will stop laying.

A single dozen fowls, properly attended, will furnish a family with more than 2,000 eggs in a year, and 100 full grown chickens for fall and winter stores. The expense of feeding the dozen fowls will not amount to 18 bushels of Indian corn. They may be kept in cities as well as in the country, and will do as well shut up the year round as to run at large; and a grated room, well lighted, ten feet by five, partitioned from any stable or other out-house, is sufficient for the dozen fowls, with their roosting place, nests and feeding troughs.

At the proper season, viz. in the spring of the year, five or six hens will hatch at the same time, and the fifty or sixty chickens given to one hen. Two hens will take care of 100 chickens well enough, until they begin to climb their little stick roosts; they should then be separated from the hens entirely; they will wander less, and do better away from the fowls. I have often kept the chickens in my garden; they keep the May bugs and other insects away from the vines, &c.

In cases of confining fowls in summer, it should be remembered that a ground room

should be chosen: or it will do just as well to set into their pen boxes of dried sand, or kiln-dried, well pulverized earth, for them to wallow in, in warm weather.—*Con. Courant.*

Method of Ascertaining the Weight of Cattle while Living.

This is of the utmost utility for all those who are not experienced judges by the eye, and by the following directions, the weight can be ascertained within a mere trifle. Take a string, put it round the beast, standing square, just behind the shoulderblade; measure on a foot rule the feet and inches the animal is in circumference: this is called the girth; then with the string measure from the bone of the tail which plumbs the line with the hinder part of the buttock; direct the line along the back to the forepart of the shoulder blade; take the dimensions on the foot rule as before, which is the length, and work the figures in the following manner; girth of the bullock, 6 feet 4 inches; length 5 feet 3 inches; which multiplied together, make 34 square superficial feet; that again multiplied by 23 (the number of pounds allowed to each superficial foot of all cattle measuring less than seven and more than five feet in girth) makes 713 lbs.; and allowing 14 lbs. to the stone, is 50 stone 13 lbs. Where the animal measures less than nine and more than seven feet in girth, 31 is the number of pounds to each superficial foot.

Again, suppose a pig or any small beast should measure two feet in girth and two feet along the back, which multiplied together, makes four square feet; that multiplied by eleven, the number of pounds allowed for each square foot of cattle measuring less than three feet in girth, makes 44 lbs., which, divided by 14, bring it to stones, is three stone two pounds. Again, suppose a calf, sheep, &c., should measure four feet six inches in girth, and three feet nine inches in length, which multiplied together makes sixteen and a half square feet; that multiplied by sixteen, the number of pounds allowed to all cattle measuring less than five feet, and more than three in girth, make 264 pounds; which divided by 14, to bring it into stones, is 18 stone 12 lbs. The dimensions of the girth and length of black cattle, sheep, calves, or hogs, may be as exactly taken in this way, as is at all necessary for any computation or valuation of stock, and will answer exactly to the four quarters, sinking the offal, and which every man who can get even a bit of chalk may easily perform. A deduction must be made for a half-fatted beast, of one stone in twenty, from that of a fat one; and for a cow that had calves, one stone must be allowed, and another for not being properly fat.—*Cattle Keeper's Guide.*

Great value of Apples.—In the fall of 1835, (says Mr. Eleazer Cady, of Canaan,) I gathered about 150 bushels of good sound apples of different kinds, and put them into my cellar, for the purpose of feeding them out to my stock of cattle and pigs, to see what effect they would have. When hard weather commenced, I had two cows that gave milk; I put them into a stable, and commenced feeding the two cows with half a bushel of apples to each cow per day. I charged the boy that milked them, to see if the cows increased their milk; and the third day the boy says that the cows gave almost double the quantity that they did before I fed them with apples; and the young woman that had the charge of the milk, says the butter that was made from the milk, at the time of feeding them on apples, was of a fine flavor, and a fine yellow color.

I likewise commenced feeding them to my pigs; I fed about one bushel a day to thirteen pigs, with a small portion of corn; and I now defy the state to bring thirteen pigs as good as mine, that have had no better keeping.

I had gathered about 550 bushels of good apples, and put them into a good bin in my carriage house, with the intent of making them into cider; but before I got ready to make them into cider, the cold weather came on, and all my apples froze. I immediately covered them with blankets, and they remained in that situation till a thaw in the latter part of December; I then commenced feeding them to my stock of cattle, which consisted of twenty-two head and two colts; I fed them about ten bushels per day; I soon found that my cattle would not eat half the quantity of hay that they did before I commenced feeding them on apples; and when the apples were gone I could see that my cattle had gained in flesh and looked better.

Communicated for the Farmers' Cabinet.

"Gather up the Fragments that nothing be lost."

No. II.

IMPORTANCE OF AGRICULTURE.

To prove the importance of agriculture to a community, seems very like demonstrating the advantages of having food to eat and clothes to wear. That it is indeed, the first and greatest concern of every nation, and the foundation of its prosperity in every other matter, is a truth so universally acknowledged, that it has obtained almost the currency of a proverb.

DISCOVERY OR INVENTION.

It does so happen, that many of our useful discoveries have been owing to men not connected in practice with the art to which their discoveries were applicable. Arkwright was a barber, Dolland was a silkweaver. The compass, the chronometer, and the weather-

glass, three of the greatest helps to navigation, were all discovered by landsmen. Gunpowder is supposed to have been discovered by a monk.*

THEORY.

Ignorant men are the most irreclaimable theorists. They attribute disorders to the most fanciful cause, and then from their assumed and absurd premises, they argue away to a conclusion as hardily as a geometrician. They will never be satisfied without assigning some cause for the phenomena which they see, and that assigned cause is often not only false, but absurd; and, as the remedies resorted to are naturally correspondent with the supposed cause of a disease, the latter is likely to remain undisturbed, and a new disease to be introduced by the operation of the intended remedy. Apple trees have been cut down, from its having been unjustly supposed that they bred certain insects which did mischief to the corn.

Kirby and Spence give an instance of a meadow in which the grass was eaten up by grubs; the rooks were busy in digging for these grubs, of which they happened to be fond, but the owner thought it was the rooks that eat the grass, and he therefore shot them.

CHEMISTRY

The efforts of the farmer are chiefly directed towards making land more fertile; and the first step in this process is to inquire in what particulars less fertile land may differ from that which is more so; to compare the two together; to find out the ingredients of each, and the proportions in which they are mixed. The knowledge how to do this, is Chemistry.

WASTE NOT—WANT NOT.

If you wish to promote your children's prosperity, inculcate upon them the necessity and importance of keeping clean hearts and hands, and also of making clean plates at meal times. An observing man said, that he never knew a family to thrive in the world, who never ate a meal without wasting a part of what was set before them, for the sake of what foolish, inconsiderate people call manners; but which he considered bad manners, and a wanton waste of the good things which Providence had furnished them

INFLUENCE OF EARLY INSTRUCTION.

Those who are not taught to be industrious, frugal and careful in early life, will rarely assume those great qualities, when they are of riper years.

COMMON SENSE.

Common sense is a gem of the first water; it enables us to perform the duties of life with propriety and efficiency; it always bears a high price with judicious, sensible people, for the market is never overstocked with it.

Uncommon sense often has more of show than utility about it, and frequently at a great discount, in consequence of its incontrovertibility to the useful, practical purposes of life.

THE MIND.

All our actions have their origin in the mind; *it* first conceives and resolves, and then directs the members to execute its determinations, be they right or wrong: how important then is it to keep the source of all our actions well regulated and guarded against injurious and pernicious impulses, lest they betray us into acts, that may strew our path with briars and thorns.

INDOLENCE

Is a disease of the mind, that acts on the body; in its incipient stages, by the application of proper remedies, it is curable; but if suffered to assume the chronic form, it generally pursues its victim through the whole course of his life, embittering his own condition and drying up the consolations of others.

A REASON FOR EVERY THING.

Young people should be strongly impressed with the truth, that nothing happens without a cause, and that there is a reason for every thing that does happen.

PROVIDENCE

Has furnished us with the good things of this life for use, and not for abuse.

INFLUENCE OF EXAMPLE.

It is well known to the students in ornithology, that the younglings of singing birds listen to the old ones, and carefully learn their notes. And this propensity to imitation is no less obvious in children. Like those little birds, or rather like little apes, they are prone to mimic whatever is done or said in their presence, and especially the ways and manners of their parents and instructors. So that the example set before them by those who have the care of their education, together with that of their young companions, has, of all human means, perhaps, the greatest influence in forming and fixing their characters for life.

CREDIT.

Credit, so valuable to all who are in any reputable kind of business, and especially to those who have little else to depend upon, is of a delicate and frail nature: it must be used with moderation, or it languishes and dies.

A GOOD HIT.

Sir Walter Raleigh, lodging at the house of a noble Duke, early in the morning overheard the Dutchess inquiring of her servants if the pigs had been fed; and, with a signifi-

* "How came priests and bishops, an' please your honor, to trouble their heads so much about gunpowder?" "God knows," said my uncle Toby, "his Providence brings good out of every thing."

cant smile, asking her, as he was going to the table, if her pigs had had their breakfast; she archly replied, "They have all been fed except the strange pig that I am now about to feed."

SUCCESS IN AGRICULTURE

And horticulture, depends not alone on doing things well, but in doing them at the right time. Some people are generally a week or two too late with their work, and this is, six times out of seven, to want success; for it is said,

That the lazy man has but one year out of seven.

A well fed cow, kept clean, is like a well manured garden free from weeds; she is a credit to her owner and produces abundant returns.

Children may be governed too little or too much, but never too well.

There is no worse sign in children, nor any thing more necessary to be nipt in the bud, than a strong propensity to exercise cruelty upon the brute creatures within their power.

The fruit of age is generally corresponding to the education of childhood.

Education goes far, very far, in determining and fixing characters.

Don't kill your Bees.

The bee and the silk worm are almost the only insects permanently useful to man, and it has always been a source of regret that the rich stores of the first could not, in ordinary cases, be obtained without the destruction of the owner. This difficulty can now be obviated in an easy manner.

Mr. Cotton lately read before the Ashmolean Society at Oxford, some notices on bees, and his first position was—"never kill a bee." The bee owner has in the *fungus maximus*, or common puff ball, a powerful instrument ready to his hands, by which he is able to adopt a more humane and profitable mode of treatment. The smoke of this fungus, when dried so as to hold fire, has a stupifying effect on the bees, and renders them as harmless as brimstone does, without any of its deadly effects. By means of this, weak swarms, which would not live through the winter, may be united to strong stocks. Mr. Cotton stated it as a fact, borne out by experiment, that a hive thus doubled will not consume more honey in the winter than a stock in its natural state. This was discovered by a Swiss pastor, De Gelior. The additional heat seems to serve instead of additional food, to keep up the vitality of the half-torpid bees. He recommends a cold, dry, dark room, the colder the better, as the best winter quarters for bees. They will consume less honey than if left on their summer stands, and will not be weakened by the loss of thousands, which tempted out by the premature warmth of some early spring day, are caught by the cold winds, fall to the ground and never rise again. *Dryness*, however, is essential; and he described the principle of ventilation, or proper airing of the hives in summer, as the most valuable improvement in bee keeping.

Every farmer should keep bees; a few swarms to furnish honey for his own use, if no more. They cost little, forage wherever the wild flower grows, have no ideas of landed property, and furnish the individual who has a taste for studying the habits of insects, or observing the wonders of that power we call instinct, an ample field of surprise and gratification.—*Gen. Farmer.*

Bees are among the most profitable appendages to a farm house or any other sort of a house. They toil with unremitting industry, asking but a full sweep of the wing, and no monopoly. Every man, in either town or country, can keep bees to decided advantage. Dr. Smith of Boston has an apiary on his house top, from whence his little winged laborers traverse the air eight or ten miles in search of food. What a delicious banquet they afford, from the rich nectar gathered. Nothing like pure honey in the comb, except, as the ancients used to say, the "dew distilled from maiden lips." Its golden hue, unctuous consistency, and the way in which it elaborates itself over a fastidious palate, how delicious! Strange it is, that any man possessing a homestead, can forego the pleasures of a bee hive. Not merely the sweets it affords to sour dispositions and acrid tempers, but the patterns to diligence they exhibit, is worth not a little as a stimulus to all to be frugal and industrious. Let every one keep a bee hive.—*Northampton Courier.*

Improvement.

Farmers should aim at constantly improving the soil of their farms—they should study the existing defects, and endeavor as fast as circumstances will permit to remedy them; if their land is too wet, they should drain it—if too stiff and clayey they should apply loosening manures; if light and sterile, they should make use of green crops of clover as manure, with plaster and lime—if sour (generally indicated by the growth of sorrel, broom grass or scrub pines,) they should apply all the enriching manure they can possibly obtain; for good farming, and the application of manure, are inseparable. They will thus not only increase their capital by the increased products of their farms every year, but they will do it by the constantly augmenting value of their land; their profits will be two-fold, and in their increase mutually accelerate each other.

Rice.

This is an excellent grain, forming a palatable and nutritious diet, and is now a staple article of export from the Southern States.—It was introduced into the southern parts of Europe from India. The time in which it reached Italy is uncertain, but it has for ages been produced in the neighborhood of Verona. It began to be imported from thence, and from Egypt into England, during the latter part of the seventeenth century, about which time it was introduced into the Southern Provinces of America,—and in the year 1668, it was first planted in Carolina by Sir Nathaniel Johnson, Governor of that Province; but the seed being indifferent, the culture of it was for a time unsuccessful.

In the year 1695, a vessel from Madagascar, arrived at Charleston; the master of which, furnished a Mr. Woodward with about half a bushel of rice, of superior quality.—The climate and soil proving favorable to its cultivation, from this small beginning sprung an immense source of wealth to the Southern States. Within the last one hundred years, 120,000 tierces of rice have been annually exported from South Carolina, and at least 20,000 from Georgia, besides furnishing an important, indeed, a principal article of food for a large portion of the inhabitants of the South. It is exported in immense quantities to various parts of Europe and the West Indies, and has more than once afforded relief from want, and perhaps saved the lives of thousands in times of dearth.

So much for the remnant of a sea stock, left in the bottom of a bag.

Planting Garden Seeds in the Fall.

Two years ago, after taking the vegetables from our garden, we immediately prepared the beds and sowed onions, parsneps, carrots, lettuce, beets, cabbage, &c., on the fourteenth day of October. They were covered with rye straw, and litter, and manure from the barn yard thrown over them, to the depth of four or five inches. In the spring, as soon as the frost was out, this was removed, and we found that in consequence of the straw not being well threshed, much rye had dropped upon the ground and had taken root, in extricating which we uprooted and destroyed a large portion of our young plants, which had already started and were doing well. What did grow, however, did well and were large enough to use a number of days sooner than those planted as early in the spring as the weather would permit. Plants from the cabbage seed sown in the fall, were much more thrifty, and produced larger heads, than those of the same variety sown in the spring. We name this as the result of a single experiment, and as we are in no situation to repeat it this year, we should like to have some of our friends try it, and let us know the result next fall. Let a few rows of each kind of seed be sown in one bed, to try the experiment, and we would recommend covering it with the boughs of evergreen trees, if they can be handily obtained, or some pieces of boards, instead of straw, as no grain can then shake off, and they will assist to protect it from frost.—*Maine Farmer.*

Matter is constantly changing its form, yet there is no increase or diminution of it.

DURHAM CATTLE.

Public and Private Sales of Durham Short Horns, at Philadelphia, 5th and 6th November, 1838. *Reported by* C. J. Wolbert, *Auctioneer.*

COWS.

Name.	Age.	Purchaser.	Residence.	Amount.
†Dairy Maid,	3 years,	James Gowan, Esq.	Philadelphia county.	$ 540 00
†Victoria,	3 "	George Brinton, Esq.	Chester county, Pa.	520 00
†Nunnia,	3 "	Corbon Warwick, Esq.	Richmond, Va.	540 00
†Viviana,	3 "	William Heyser, Esq.	Chambersburg, Pa.	520 00
†Thornville,	2 years 11 mos.	William Heyser, Esq.	Chambersburg, Pa.	501 00
†Lady Whitworth,	2 "	Corbon Warwick, Esq.	Richmond, Va.	530 00
†Lobelia,	2 " 9 mos.	William S. Tor, Esq.	Philadelphia county,	400 00
†Enchantress,	2 " 6 "	R. A. Taylor, Esq.	Baltimore city,	540 00
†Minerva,	2 " 4 "	Dr. Charles Noble,	Philadelphia county,	340 00
†Sarah,	2 "	Mr. Beltzhoover,	Baltimore city,	340 00
Daphne,	3 "	S. Canby, Esq.	Wilmington, Del.	200 00
Beauty,	2 "	S. Canby, Esq.	Wilmington, Del.	200 00
Durham Beauty,	5 "	Mr. Beltzhoover,	Baltimore city,	400 00
Dulcibella,	Aged,	Mr. Maitland,	Philadelphia county,	185 00
*Flora,	9 years,	C. J. Wolbert,	Philadelphia city,	360 00
Flora's Heifer Calf,	1 "	R. A. Taylor, Esq.	Baltimore city,	270 00

BULLS.

†His Grace,	1 year 3 months,	Paschall Morris, Esq.	Chester county, Pa.	550 00
In all seventeen head, average rising $107. Total,				$6,925 00

Many *fine* cattle were bid in for their owners, and many ordinary and half breeds were sold at comparatively low prices.

All the cattle in the above list marked thus, †, were the imported lots, lately sent to this country by Mr. Whitaker.

N. B.—C. J. Wolbert will receive early in the ensuing spring, a very superior lot of Durham sheep and hogs, directly from the breeder in England, all of which will be sold at public sale.

We are indebted to our friend David Comfort, of Byberry, for a *Citron Pumpkin*, weighing forty pounds.

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* Flora, the celebrated butter cow, formerly owned by the Hon. C. A. Barnitz. This cow's cream one night's gathering, placed in a bowl and stirred with a spoon, will produce butter in 15 to 25 *seconds*.

We are under the necessity of offering our subscribers an apology for the late appearance of our present number. The delay originated in the stereotype department, and was entirely beyond our control.

Quantity of rain which has fallen in each month since January 1, 1838.

	Inches.
1st month,	2.20
2d month,	2.19
3d month,	3.17
4th month,	3.58
5th month,	3.57
6th month,	6.60
7th month,	2.37
8th month,	2.78
9th month,	9.51
10th month,	4.89

Philadelphia, Nov. 1, 1838.

☞ Several communications are unavoidably deferred until our December number, among them a paper on "Hoof-Ail," and a communication on the Burning of clay.

☞ The regular monthly meeting of the Horticultural Society, will be held at the usual place, on Tuesday evening, the 20th instant.

The meeting of the Agricultural Society will be held in the Philosophical Hall, in Fifth street, below Chesnut, on Wednesday morning, 21st inst., at 11 o'clock.

Prouty and Mears's celebrated Plough, Exhibited at the Fair of the Franklin Institute, will be left, after the exhibition shall close, at the office of the Farmers' Cabinet, for the examination of farmers. It has acquired a high reputation among the farmers of New England. A description of this plough, with a correct engraving, may be expected in our next.

A Fine Animal For Sale.

We are requested to state that the thoroughbred Short Horn Durham Bull, BRUCE, two years old the 14th of September last, raised in England by Mr. Whitaker, (see the Herd Book for his pedigree,) was not sold at the Agricultural Fair, as mentioned in a morning paper. At the Show he had the second premium awarded to him. He is gentle and quiet, and is only offered for sale because the owner has another to cross with his stock. Application may be made to the owner, Thomas Rotch, Claremont, Philad. county.

Prices Current--November 13.

FLOUR, PER BARREL.	
Pennsylvania and Brandywine	$8 00 a 8 50
Western	7 88 a 8 12
Scraped	7 50 a 0 00
Middling	4 75 a 0 00
Rye Flour	5 00 a 0 00
Corn Meal	4 00 a 0 00
Buckwheat Meal. per cwt	2 25 a 2 75
GRAIN, PER BUSHEL.	
Wheat, Pennsylvania	$1 63 a 1 70
—— Southern	1 60 a 1 70
Rye, Penna	98 a 1 00
—— Southern	96 a 98
Corn, Penna. round yellow,	86 a 87
—— Southern, yellow	84 a 86
—— White	83 a 84
Oats, Penna	46 a 50
—— Southern	40 a 42
Barley, Eastern	1 15 a 1 25
—— Penna	1 05 a 1 10
Peas	88 a 1 12
Beans, white	1 50 a 1 75
PROVISIONS.	
Beef, mess	$16 00 a 17 00
—— prime	10 00 a 11 00
Pork, mess	25 00 a 26 00
—— prime	19 00 a 20 00
Bacon, western, per lb	12½ a 13½
Hams, Jersey	13 a 15
—— Western	12 a 14
Butter, extra keg, No. 1	18 a 20
Cheese, country	8½ a 10
Lard, western	12 a 13
Philadelphia	12 a 13
Jersey	13 a 14
WOOL, PER POUND.	
Prime Saxony	50 a 53
American full blood	45 a 52
——— ¾ blood	42 a 45
——— ½ blood	39 a 41
——— ¼ blood and common	35 a 37
Lamb's sup. pull	45 a 50
Do. Nos. 1, 2, and 3	33 a 45
Hay, Timothy, per 100 lbs	85 a 1 00
Clover	75 a 90
Hemp, American dew rot, per ton	$145 00 a 150 00
Hops, per lb. 1838, prime	12 a 18
Plaster of Paris, per ton	$ 3 50 a 4 00
Clover Seed, per bushel	10 00 a 14 00
Flax Seed, rough	1 60 a 1 65
Timothy Seed	2 75 a 3 50
Herd Grass, or Red Top	0 62 a 0 75
Sumac, American, per ton	35 00 a 37 50
Tallow, American, per lb	11 a 11½

NEW YORK—November 12.

Flour, per barrel	$8 25 a 8 50
Wheat, per bushel	1 80 a 1 85
Corn, per bushel	90 a 94
Rye, per bushel	1 00 a 1 12
Oats, per bushel	44 a 46

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